PREFACE

Decision Support Systems (DSS) are combinations of computer hardware and software designed to assist decision-makers in making complex decisions. DSS extend the capabilities of management information systems (MIS) primarily by providing additional analytical capability for examining the impacts of alternative decisions. This report documents a continuing research effort under the Improved Operation Management Techniques (IOMT) Research Program to explore the potential of DSS to assist decision-makers within the Corps Divisions during the annual budget submittal. The Corps of Engineers Operations and Management Budget Decision Support System - Division (COMB_DSS-D) was developed as a prototype system and tested at Ohio River Division (ORD) during the FY 95 budget cycle. This prototype system, a derivative of the system previously developed for the Operations, Construction, and Readiness (OCR) Division (COMB_DSS), demonstrates the potential for DSS within the Corps Division annual budget submittal process.

This project research was a team effort. IOMT researchers and the users of the DSS combined to conceive, design, implement and evaluate the COMB_DSS-D. Two pivotal members of the team are Dave Harmon, CECW-O, and Jack Sirak, Ohio River Division (ORD.) Dave Harmon is the primary user of the original prototype COMB_DSS used by HQUSACE and spent many hours helping the research team develop and improve the headquarters system. Dave is also the primary author of the Division ABS software system, which is used by District and Division personnel to rank and submit the annual Operations and Mainter.nce Budget. Jack Sirak is responsible for preparation and analysis of the Division budget prior to the work function ranking process and subsequent submittal to HQUSACE, coordination of District personnel, who are all present for the ranking process, and final ranking and verification of the Division budget after the ranking process is complete. Jack Sirak is normally assisted by Mary Supple and Liz Hepfer in preparation of the Division Budget. These three individuals were the primary users of the COMB_DSS-D during the entire budget submittal process. In addition, Bill Eicher of ORD provided essential support and guidance, in particular in terms of the design for the ranking process. Michael R. Walsh, CECW-IWR-R, was the project technical monitor and provided invaluable support and technical guidance to the project team. Connie Raaymakers and Ed Japel, CERL-FS, assisted with data transfer from the DIVISION to the COMB_DSS_D. Steve Scott, WES_HE-E, is co-principal investigator with Mr. Walsh on this IOMT work unit. Planning and Management Consultants, Limited (PMCL) provided technical support under contract to the Institute for Water Resources (IWR.) Craig A. Strus was PMCL's project manager and, with the able support of Russ E. Robinson, developed the prototype COMB_DSS-D system. Richard M. Males, RMM Technical Services, Inc., a subcontractor to PMCL, was intensely involved in the design effort and provided essential on-site support during the ranking process.

Comments about this report are encouraged and should be directed to Michael R. Walsh, CEWRC-IWR, Casey Building, Fort Belvoir, VA 22060 (703) 355-3087.

DTIC QUALITY INSPECTED 3

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EXECUTIVE SUMMARY

This report describes the development and use of a PC-based decision support system to assist with O&M budget analysis. The Corps Operation and Maintenance Budget Decision Support System - Division (COMB_DSS-D) is the second product of the work unit entitled, *Decision Support Systems for Operations and Maintenance*, under the Improved Operation Management Techniques (IOMT) research program. The objective of the COMB_DSS-D effort is to assist the Division planners with analysis and decision-making on yearly budget submittals made by Corps Districts.

The success of this work effort can be attributed to the approach used to develop the original COMB_DSS, currently being used by HQUSACE. The COMB_DSS project was highly focused, on a well-defined, relevant problem. For both systems (e.g., COMB_DSS and COMB_DSS-D), the Automated Budget System (ABS) offered a database framework from which these decision support tools could be built. The project team includes personnel from IWR, HQUSACE, ORD, CERL, and WES who are familiar with the existing ABS system as well as the principles for sound decision support system development. The team worked directly with the primary user of the system to insure that the system performed crucial tasks effectively when the budget submittal process at ORD began.

The COMB_DSS-D was developed using an iterative, rapid prototyping approach. Rather than spend extensive time and effort developing detailed requirements and design specifications before coding and testing, three versions of the prototype system were developed, each of which incrementally approached the decision support needs of ORD. Each prototype version allowed the user 'hands-on' experience with the system very early in the development cycle, thereby providing the development team with rapid feedback on what worked and what didn't work. Thus, the design team was able to respond with improved capabilities in a timely fashion.

The COMB_DSS-D is designed to: (1) replicate and enhance the reports that are familiar to the decision-makers, (2) provide a more robust and accessible structure for the analysis process, and (3) support the ranking process by providing rank automation tools. The system, as currently developed, operates on a high-end desktop computer, allows consideration of over 500 different scenarios, and eliminates the majority of the mainframe processing costs. The ability to develop and track different scenarios allowed analysts and decision makers to consider many different possible funding paths for the O&M budget. The scenarios and other inherent reporting tools allowed for more analysis than was possible under the existing Division ABS system. The COMB_DSS-D provided the same level of reporting capabilities as the COMB_DSS, with system customization to conform to the Division's specific needs.

The COMB_DSS-D works with the existing ABS budget data that is transmitted to Headquarters each year from Districts. The ORD Operations and Maintenance Data consists of approximately 3600 work functions, all of which are candidates for funding in the budget process. These work functions have been prioritized by Districts, are analyzed by the Division in terms of Division objectives, and are ultimately ranked in final order of preference by HQUSACE. This

ranking determines which work functions are funded in a given budget year. A highly interactive process, in which decision makers request a variety of reports based on the data, in order to assess the programmatic and financial impacts of alternative rankings, is the norm, requiring intensive use of computer resources and manpower. The majority of this examination is done in an intensive process during the month of May for Divisions, and July for HQUSACE, to comply with requirements for submittals within the budget cycle.

During the critical time of analysis in May of 1993, a support team went to ORD with the latest prototype version of the COMB_DSS-D. The system was installed on a desktop computer and was used by the design team to ensure that critical budget submittal deadlines lines were met.

I. INTRODUCTION

OVERVIEW OF REPORT

The organization of this report, in addition to the preceding preface and executive summary, is as follows. This chapter reviews the Automated Budget System (ABS) and the O&M budget cycle. Chapter II discusses the concept and design leading up to COMB_DSS-D prototype implementation. Chapter III discusses, in detail, on-site testing and implementation of the prototype system. Chapter IV summarizes the work effort, providing design team insights on system strengths, weaknesses, and future directions of DSS tools in the Corps O&M Arena. Appendix A is a system walk through, stepping the reader through the major COMB_DSS-D menus, screens, and analysis procedures. Appendix B provides a listing of all tables, forms, and reports used by the system. Appendix C provides the user with sample reports generated by the system. Additionally, external technical documentation has been developed and provided to the project officer containing listings of all system command and application files (source code).

BACKGROUND

This research effort to develop the Corps of Engineers Operation and Management Budget Decision Support System - Division version (COMB_DSS-D) is part of the Improvement of Operations and Management Techniques (IOMT) research program. The objective of the IOMT program is to (1) reduce costs while increasing the safety and efficiency of operations and maintenance management, (2) enhance the utility of O&M assets such as locks, dams, and vessels, and (3) address the economic and budgetary issues in the O&M function.

Initially, the work unit on the application of decision support systems (DSS) within the Operations, Construction and Readiness (OCR) Division was designed to explore opportunities for DSS, select high priority opportunities and develop a prototype to test the effectiveness of DSS. When the objectives of the work unit were explained to the Field Review Group (FRG) at the first review meeting of the IOMT, the FRG saw an opportunity to enhance the existing O&M budget process by developing a DSS that would improve the analysis of budget submissions for each FY budget. The FRG suggested that the research focus on developing a DSS to assist with decisions about the budget process. The development of a working DSS would demonstrate the usefulness of DSS and provide immediate benefits by improving the budget decision process. Thus, the research changed direction to develop a DSS to assist with the budget decision process. The starting point for the research was the Division ABS system in place at all Corps Division offices and the COMB_DSS headquarters version.

After the successful implementation of COMB_DSS for HQUSACE, the focus turned to improving the budget decision process at the Division level. Because the budget submittal process is similar between HQUSACE and the Division, the design team saw the COMB_DSS system as a

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relevant starting point for the first prototype system. Thus, the initial COMB_DSS-D prototype was a derivative of the Headquarters version, allowing critical analysis and reporting to be accomplished on a Division database.

RESEARCH OBJECTIVES

The goal of this project was to determine whether or not DSS are useful in the Division budget submittal process. After an initial contact with ORD personnel and a review of the existing COMB_DSS system in use at HQUSACE, it was determined that the Division system prototype (COMB_DSS-D) could be derived and adapted from the Headquarters system, modified as necessary for Division needs. Working closely with Division personnel, the design team was able, through three prototype versions, to closely match reporting, analysis, and ranking requirements. Constant feedback from Division personnel on each prototype iteration moved the development toward a final version that provided most of the necessary capabilities. To ensure expected and intended system behavior, design team personnel were on-site through the entire budget submittal process and made system changes and extensions to emulate the Division's needs.

II. SYSTEM CONCEPT AND DESIGN

OVERVIEW

In an initial meeting with ORD personnel, system requirements were discussed and broken into five primary components, as follows:

(1)   Quality Assurance - checks on the District data
(2)   Scenario Analysis - financial summaries of the data
(3)   Division Ranking - development of the Division ranks
(4)   Impact Analysis - determination of impacts of HQ and OMB decisions
(5)   Data Transfers - data input and output to/from ABS format files

Additional Division requirements included the generation of initial reports from the data tables. The design team was provided with many of the 'hardcopy' reports created and used during the ORD budget submittal process. Finally, a presentation of the COMB_DSS system, used to support the analysis of the BY 94 budget submittal to OMB, demonstrated that it was a good starting point for iterative Division prototype development.

Because iterative prototyping tends to provide an 'on-the-mark' end product, a prototype version was quickly developed and provided to Division personnel for review and comment, with feedback directing a new prototype version. The intent of the iterative prototyping process was to involve the end-users while the prototype was being developed, to ensure that it was an appropriate and relevant tool upon final iteration. Three prototype versions were built, and the third version was installed on a selected ORD computer in June of 1993 for budget analysis, ranking, and submittal.

REPORTING REQUIREMENTS

Initial reports were developed, using Structured Query Language (SQL) capabilities, to provide the Division with a simplified mechanism for report generation. These initial reports were intended to provide initial cost information to aid Division personnel in evaluating the District's budget submittals. Note that the information found in these reports had been created by the Division in the past using combinations of dBase and Lotus 1-2-3. The initial reports developed for the COMB_DSS-D are specified through a simple data entry form, which allows the user to enter selection criteria, thereby constraining the report generation to those criteria. The selection criteria include:

- Division rank ranges
- Funding level
- FCCD ranges
- A choice of funding dollars or work function count (currently either 93 Division submittal to OCE budget or 93 OMB passback) to be used in the crosstab reports

- Appropriation code
- A logical flag indicating whether or not the report should include zebra mussel work functions.

The initial reports found in the final prototype system include:

(1) Total $
(2) Total $ by District
(3) Total $ by funding level
(4) Total $ by project class
(5) Total $ by FCCD
(6) Total $ by category
(7) Total $ by District;funding level
(8) Total $ by District;project class
(9) Total $ by District;FCCD
(10) Total $ by District;category
(11) Count of zebra mussels by category

One important requirement for ORD was that reports be produced by District (i.e., a District for each column.) Thus initial reports 7-10 listed above are "crosstab" queries, which provide a column for each District and a row for each funding level, project class, FCCD, and category, respectively.

During the process of revising initial reports, the development team decided to create a new menu item, which automatically creates and saves 'primary scenarios' by using a District code as the selection criteria. (Note that the scenario concept is discussed in a later section of this chapter.) The result is a primary scenario for each unique District in the work function table, which can then be run, evaluated, and stored in the cost summary rollup tables. In summary, this provides a simplified mechanism for the user to generate financial reports as a function of District and appropriation code.

It should be noted that ORD had a specific interest in work functions specific to zebra mussels. As a result, the design team responded with a selection criteria option that allowed only zebra mussels to be analyzed from the initial reports. ORD used the initial reports and scenarios to analyze the zebra mussel work functions by District and funding level.

QUALITY CONTROL

After the initial database had been loaded into the COMB_DSS-D data tables, two important system utilities were utilized. The first utility involved running the initial reports outlined above. The second utility was to perform a set of "logical checks" to ensure that the work function data was valid (e.g., check feature cost codes with the FEAT_TIT table to ensure that they exist and are valid.) The prototype COMB_DSS-D was developed to contain the following logical checks:

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(1)   Check WORKFUNC for unique work func. numbers
(2)   Maximum and Minimum work function numbers
(3)   Check WORKFUNC for invalid Districts as referenced in DISTRICT
(4)   Check WORKFUNC for invalid FCCD as referenced in FEAT_TIT
(5)   Check WORKFUNC for invalid Projcls as referenced in CLASS
(6)   Check WORKFUNC for Appcode NOT "C", "E", or "F"
(7)   Check WORKFUNC for missing Category
(8)   Check WORKFUNC for missing CWIS number
(9)   Check WORKFUNC for missing Workfunc number
(10)   Check WORKFUNC for missing FuncID
(11)   Check WORKFUNC for missing Rank
(12)   Check WORKFUNC for output measure range (0-100)
(13)   Check WORKFUNC for 'subcost' columns not equal to totcost
(14)   WARNING - Total Cost is less than or equal to zero
(15)   WARNING - Zero or missing District rank in WORKFUNC
(16)   WARNING - Zero or missing Division rank in WORKFUNC
(17)   WARNING - Zero or missing OCE rank in WORKFUNC

Figure II-1 portrays the primary data base tables used in constructing the logical checks.
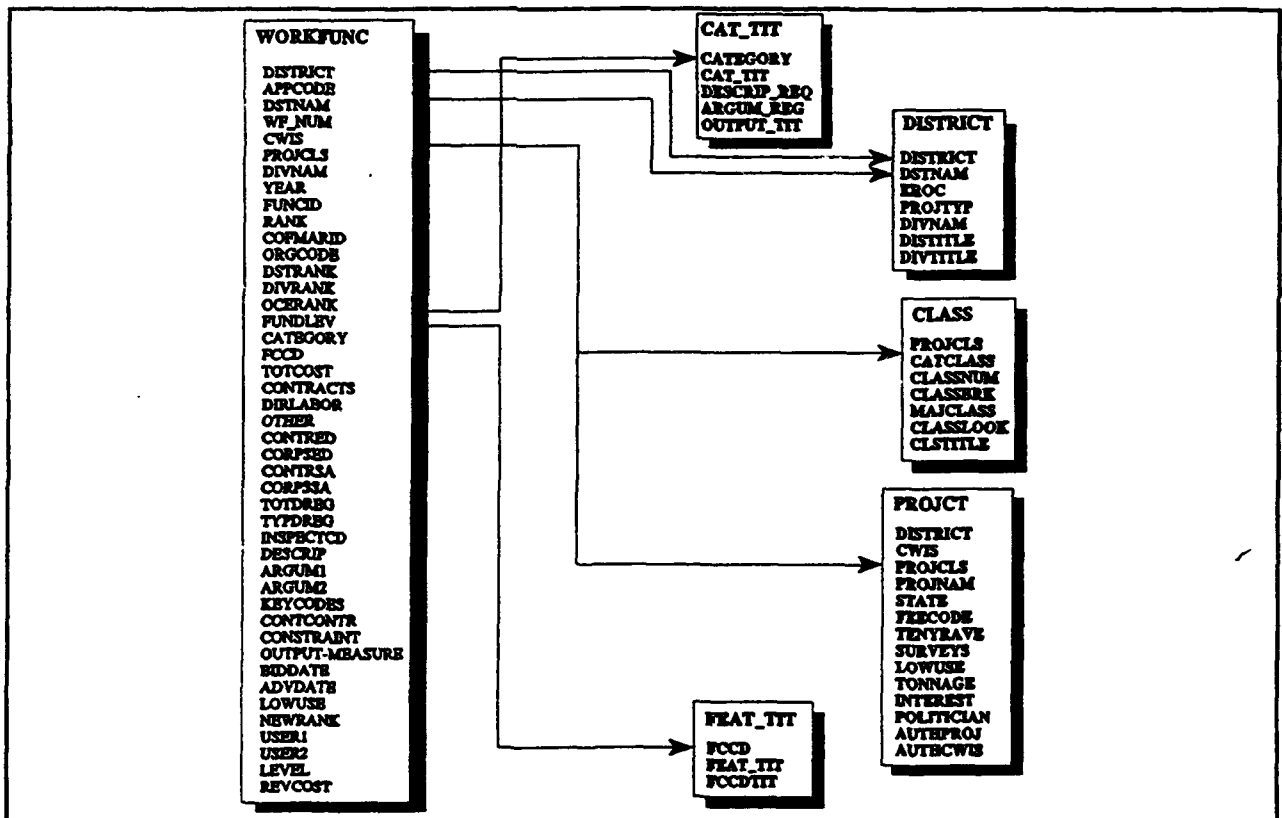
FIGURE II-1
TABLES USED IN LOGICAL CHECKS

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SCENARIO MANAGEMENT

A 'scenario', as used in the COMB_DSS-D, represents a set of work functions that contain a similar set of properties. That is, a 'scenario' is a subset of work function data that is derived by applying a user-defined set of selection criteria expressed as a query on the entire set of available work functions. Thus, by constraining a query (e.g., select only level 1 work functions), subsets of work functions can be stored away for future reference, thereby creating a finite 'audit' trail of the analysis process. The COMB_DSS-D contains three types of scenarios: Primary, Composite, and SQL.

'Primary' scenarios were designed as the basic method of grouping work functions together for further reporting and financial analysis. A two page data entry form was developed to allow primary scenario selection criteria to be entered and edited. The first field in the primary scenario screen allows for a unique name to be assigned to the scenario for future referencing. Other primary scenario selection criteria fields include:

- Appropriation (e.g., E, F, or C) REQUIRED
- Low use navigation flag
- A range of Division ranks
- A range of output measures (really condition index)
- Two user defined variable ranges (used in ranking)
- A minimum cost on the work function
- A cumulative cost, above which (or below which) no more work functions are obtained for the scenario
- Whether or not the cumulative cost should be calculated in ascending or descending order.
- Constrain to particular District code(s).
- Constrain to particular Class(es) of work.
- Includes and excludes of particular CWIS numbers, OCE ranks, and Feature Cost Codes.

A 'composite' scenario is an integration of primary, composite, or SQL scenarios, built through an 'intersect', 'union', or 'subtraction' process. A Union (U) scenario process will provide the union of work functions contained in each scenario labeled as U (i.e., any work function in any U process is in the composite.) An intersect I scenario process gives the intersection of work functions contained in each scenario labeled as I (i.e., the work function must be present in all I work functions to be included in the composite.) The S scenario process subtracts work functions in the S scenario processes from the work functions in the I scenario processes. The S process cannot be combined with the U process, only with I processes. Note that I and U processes are also mutually exclusive. When S and I are processed jointly, the I scenario processes are handled first, and then the S scenario processes are subtracted. Scenario Processes are detailed in Figure II-2.

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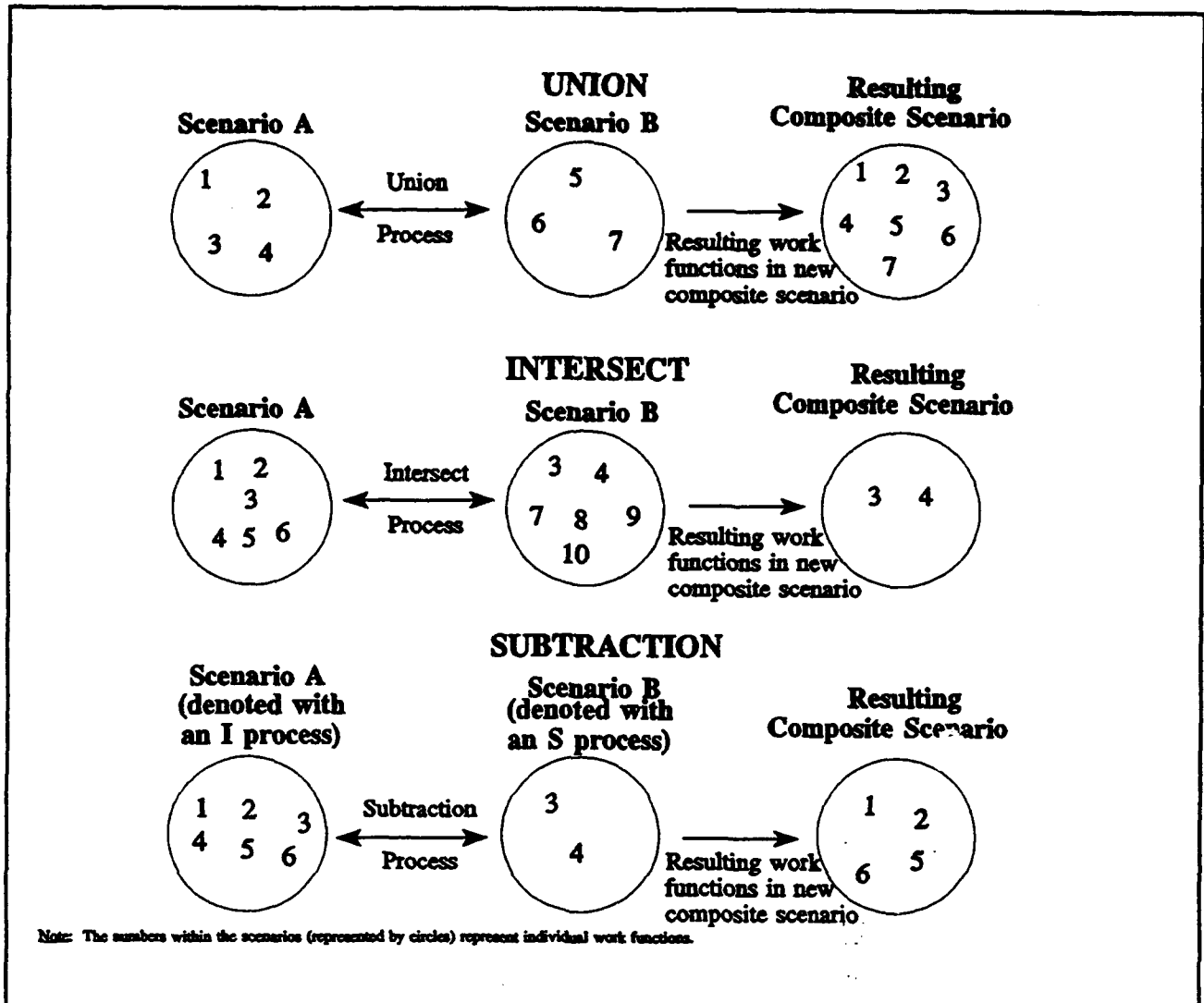
FIGURE II-2
SAMPLE COMPOSITE SCENARIO PROCESSES

The COMB_DSS-D also contains an 'SQL' (pronounced 'see-quel') scenario capability, which enables the user to build an ad-hoc scenario with consideration of selection criteria that are not available within the primary selection criteria forms. The user can enter an SQL "where" clause, which allows the creation of selection criteria on any field or combination of fields in the table containing available work functions. Once created, an SQL scenario can be joined with primary or composite scenarios through a union, intersection, or subtraction process.

The tables used to store all three types of scenario information for retrieval at a later time and the relationships between them are depicted in Figure II-3.

Note that when a scenario is run, the results (the set of work functions that satisfy the selection criteria for the scenario) are stored in the TEMPSCEN table. After a scenario is
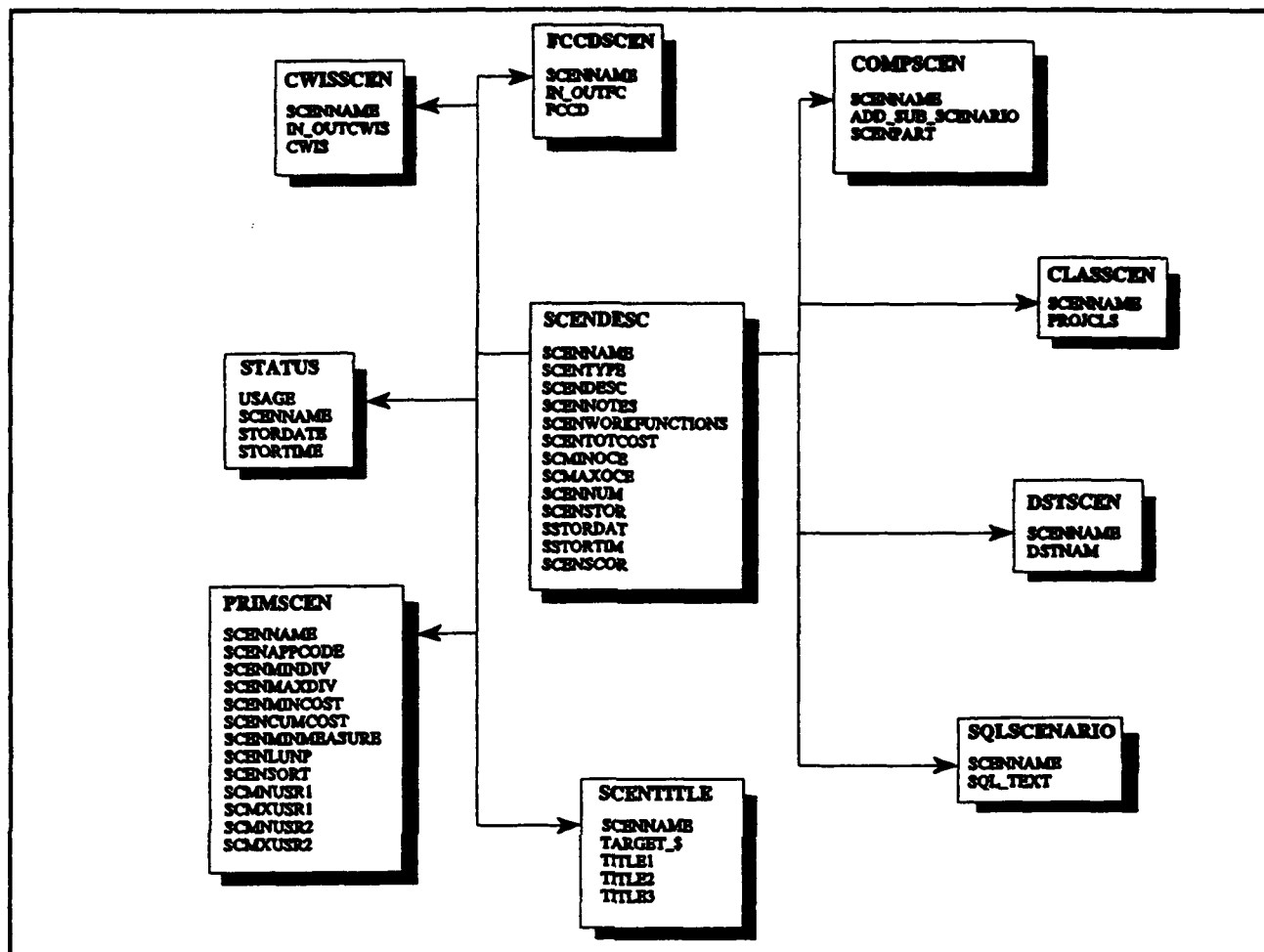
FIGURE II-3
SCENARIO TABLES

evaluated, it can be permanently 'stored' in a work function-scenario matrix file stored outside of R:Base and cost summaries are saved in five summary tables shown on the right of Figure II-4.

FINANCIAL ANALYSIS

Many of the same financial reports developed for the Headquarters COMB_DSS version were used to aid Division planners in the budget analysis. These reports are derived from scenarios, which are created by the user during the budget analysis process. Note that the COMB_DSS-D system automatically generates a set of SQL scenarios that give the user access to specific Division and Division cost information. The COMB_DSS-D currently allows for 512 unique scenarios. The scenarios used in the financial reports can be one of the three available types mentioned earlier.
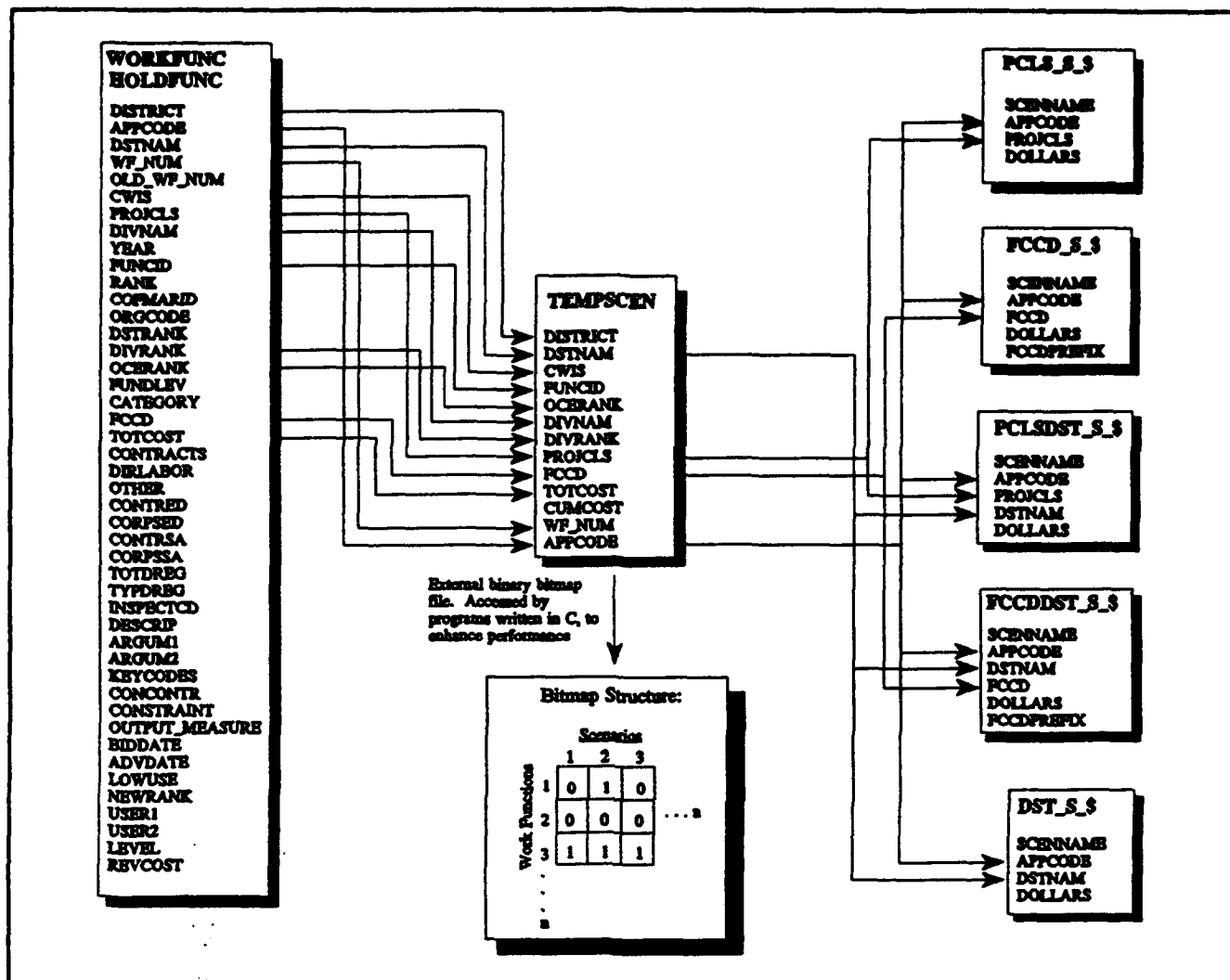
FIGURE II-4
SCENARIO STORAGE TO ROLLUP TABLES

The financial analysis capability allows the users to compare scenario results for a given appropriation by feature cost code, feature cost code prefix, District, project class, and major class breakout. Note that a scenario must be 'stored' in the cost summary rollup tables prior to performing financial analysis. As with the COMB_DSS, the COMB_DSS-D provided a clear-cut method of reporting information contained in different scenarios to support and lead into the ranking of work functions. These reports were changed for the Division prototype to provide breakouts by District rather than Division. Sample financial reports may be found in Appendix C of this document.

The advantage of running financial reports over initial reports lies within the construct of scenarios. The initial reports are set (static, that is not user-definable), while scenarios are dynamic since selection criteria are user-definable. The financial reports then allow up to seven different scenarios to be viewed 'side-by-side'. This was particularly useful to ORD, when viewing scenarios that were set to represent specific Districts.

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DIVISION RANKING

The ranking procedure used in the HQ version of COMB_DSS was demonstrated to Division personnel, but did not meet ORD ranking requirements. The HQ ranking method operates at an aggregate level, ranking scenarios. ORD, with fewer work functions to handle, and a determination to permit Districts to develop their own rankings in so far as possible, sets 'cutoff' ranks, below which District rankings are accepted automatically. ORD then examines and ranks each work function from level 2 through waivers. This is done in a two-day group meeting at which representatives of the Districts were present. Computer support was necessary to capture the assigned ranks developed during this meeting, and to display the financial consequences (allocation of dollars by District, within funding level), of the ranking. Accordingly, an entire set of routines to provide 'real-time' support for the ranking process was developed within COMB_DSS-D.

Division personnel indicated that, upon development of scenarios and the use of financial analysis to assess those scenarios, work functions would need to be re-ranked, starting at a different rank level for each District, appropriation code, and FCCD group (O&M). This has been accomplished 'manually' in the past, by comparison, prioritization, and integration of work functions from District paper piles into a single Division paper pile. This new Division paper pile was then assigned new Division ranks based upon the meeting participants' decisions. To serve the Division needs, the design team modified the COMB_DSS-D work function table, including a field called 'newrank'. Once the newrank field was in place, an additional table was built into the COMB_DSS-D prototype version that allowed the Division to edit the starting rank for each District by appropriation. Thus, by providing different starting ranks for each District, appropriation code, and FCCD group (O&M), the ranking of all work functions up to a certain cutoff (e.g., level 1) was automated.

To accommodate the manual ranking of all remaining work functions (those not automatically ranked), four methods of data entry were provided in the third prototype version. The first (and as it turned out, most frequently used) data entry form allowed the user to enter a single Division rank, which brought up the corresponding work function record. Upon retrieval of the record, the user was able to edit the newrank, save the record, and enter another Division rank for newrank assignment. This data entry form also contained the last maximum newrank entered, so that the user could refer back to the last assigned rank. The second method of assigning newranks involved the use of a single-record form. This method also displayed the last maximum newrank assigned, and allowed the user to move from one record to another, but did not search for a record with a particular Division rank. The third form was multi-row, allowing the user to edit newranks in a form which provided a view of multiple work functions. A fourth data entry feature, in which newranks were directly edited without the use of a form was implemented, but found little use. A crosstab report, that provided total dollars by funding rank range and District, was built, allowing the budget to be quickly assessed, based upon the entry of new ranks. This report is discussed in more detail in Chapter III of this report.

The Division ranking process is in contrast to that found at Headquarters. The Headquarters process involves the development of scenarios until a final set of scenarios, representing those intended for funding is derived. Each scenario is assigned a score (lower equals better), and final OCE ranks are created by the COMB_DSS through the use of the assigned score

and the existing OCE rank. This process seeks to maintain, in as much as possible, the original OCE ranks created when the Headquarters database is created from the Division databases.

IMPACT ANALYSIS

When this project began, ORD was concerned with evaluating the impacts, on their District program, of the OMB passbacks for the '94 budget data. ORD noted that there was, within the normal OMB budget process, no simple method for Divisions/Districts to determine wnat changes were made in their program by HQ, or after OMB passbacks. In particular, ORD wanted to know which work functions have changed in cost, or moved from funded to unfunded status (or vice-versa). This general arena of examining the results of 'downstream' processes that take place after Division ranking, is referred to as 'Impact Analysis'. A simplified capability was provided in the prototype system that currently allows the user to compare total cost with revised cost. The total cost is currently the cost, by work function, that was submitted to OCE for appropriation FY 93 for BY 95. The revised cost was intended to be OMB passbacks from HQUSACE (typically available for Division review in September of each calendar year), which would allow an impact analysis to be conducted. The design team concentrated on other system capabilities, leaving this component for further examination at a future date.

DATA TRANSFERS

Data transfers for the Division prototype were developed to allow the passage of data from the Division ABS into the COMB_DSS-D and, once analysis was complete in the COMB_DSS-D, pass data back into the Division ABS. It was assumed, in this first-cut transfer mechanism, that the logical checks on the Division database were performed on the mainframe prior to downloading the data into the Division ABS. It was further assumed that the Division ABS would only be used for initial report generation and to hold data, once downloaded, for passage to the COMB_DSS-D. The ABS tables that were transferred into the COMB_DSS-D are shown in Figure II-5.
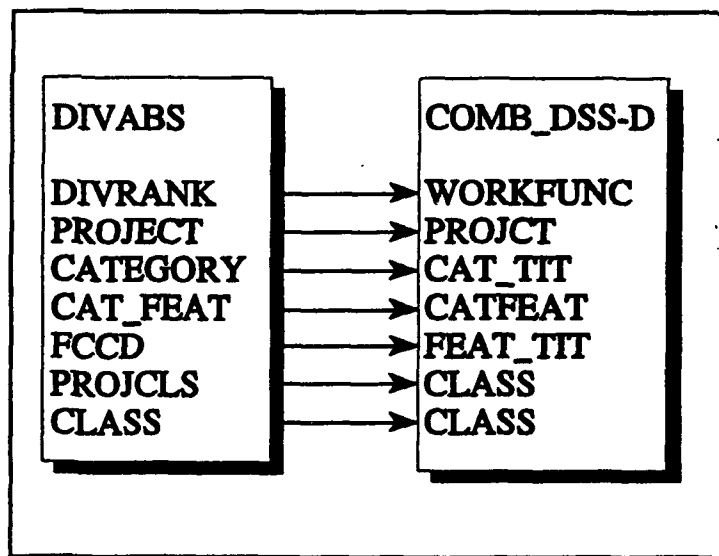
FIGURE II-5
DIVISION ABS TO COMB_DSS-D TABLE MAPPING

In order to implement the data transfers to and from the COMB_DSS-D, each of the dBase tables contained in the Division ABS were analyzed in terms of field names and types. In order to facilitate smooth data transfers, a Clipper '87 program was written to read in the ABS dBase tables and create output dBase tables with appropriate field names and field types. (Minor naming and format conflicts between the Division ABS and COMB_DSS-D, and prior experience with more cumbersome methods of data transfer using the headquarters version, led to the selection of this

approach). This allowed the COMB_DSS-D system to operate directly on the modified dBase tables and perform imports and exports to and from the Division ABS without naming conflicts. The user could also view the data prior to final import into and export out of the COMB_DSS-Dtables, with a final chance to abort the process without harming any live data. To get a visual feel for the data transfer process, and how data is moved from system to system, refer to Figure II-6.

1. District creates their work functions and uploads them to the CPC-41.

2. The Division connects to the CPC-41 and downloads District work functions. The work functions are then placed in the Division ABS .DBF data files. The COMB_DSS-D must import from the Division ABS. After all analysis and ranking is done, the COMB_DSS-D then exports back to the Division ABS.

3. The Division ABS is used to upload data back to the CPC-41.

1.

2.

DISTRICT PC   DIVISION PC   CPC-41 LOCATED AT VICKSBURG MISSISSIPPI

3.

FIGURE II-6
DISTRICT TO DIVISION DATA TRANSFERS

SYSTEM REQUIREMENTS

The COMB_DSS-D is a decision support system which requires a significant amount of computer power. The COMB_DSS-D prototype was written primarily in R:Base Version 4.0a, a relational database management system and product of MicroRim, Inc. Additional C programs were written to store a matrix of work functions and scenarios outside of R:Base. Thus, the COMB_DSS is designed to run in the R:Base environment, either under the matching R:Base run-

time version or the complete R:Base 4.0a version. The system was developed under R:Base 4.0a, using DOS version 5.0 as the primary operating system. A minimum of 3 megabytes of expanded memory are required to properly execute R:Base and corresponding applications (4 megabytes total system memory). An additional 4 megabytes is desirable, in conjunction with a reliable hard drive disk caching program.

As discovered by the analysts using the COMB_DSS at HQUSACE, a high-speed PC was the only system that allowed them to quickly try different budget scenarios. Although the Division COMB_DSS-D only contains work function data for the Division, there is still a large amount of data manipulation and analysis that must be done each time the analyst chooses to run reports, run, evaluate, and store scenarios, and perform the re-ranking process. It should be noted that, in order to shorten processing time and to conserve disk storage space on the Headquarters DSS, the design team implemented a number of C programs, which are called from the COMB_DSS. These same routines are available in the COMB_DSS-D, although some of them have been modified slightly to support Division requirements.

Not only is a high-end computer required (minimum 386-25), but the computer should also have a large hard disk, capable of fast disk accesses. The COMB_DSS-D makes use of many temporary tables, which consume disk space. The COMB_DSS-D computer(s) are used by Division planners for other computer tasks (e.g., word processing, spreadsheet software, other analysis packages). Thus a large hard disk should be available and should provide at least 25 megabytes of disk space for the COMB_DSS-D prototype. Note that the current COMB_DSS-D consumes approximately 7 megabytes of disk space, with an additional 18 megabytes desirable for R:Base installation and free disk space for reporting, imports, etc. The run-time version of R:Base will significantly decrease the hard disk requirements, but is not a desired method of implementation because the user cannot perform R:Base queries and data manipulation from within the R:Base environment. The COMB_DSS was installed at Headquarters on a Compaq 486/50L microcomputer. This computer proved sufficient in the 1992 analysis of the BY 94 data.

III. PROTOTYPE TESTING AND ON-SITE SUPPORT

SYSTEM INSTALLATION

The design team arrived on-site on the ninth of June to begin what turned out to be a highly compressed budget submittal process. The final COMB_DSS-D prototype was installed on a 386-25 Compaq, which was designated as the 'primary' computer for the budget submittal process. This computer also contained the 'master' copy of the Division ABS. The primary computer is connected to two local area networks (LAN), one of which is an IBM Token Ring. Only one network, designated through system configuration, is used at any given time. The Token Ring is connected to a direct interface (DI), which provides high speed access to the Control Data Center CDC 48000 (CPC41) minicomputer located in Vicksburg, MS. The centralized mainframe ABS database currently resides on the CPC41, and Division ABS data downloads and uploads are directed to this computer. A full version of R:Base, purchased by ORD, was installed, better facilitating COMB_DSS-D system modifications and ad-hoc queries. Once all of the necessary tools were installed, the COMB_DSS-D reports were run to ensure that printing was enabled on the network computers. Additionally, other COMB_DSS-D features, including a test run of the data import and export mechanism were examined to ensure process integrity.

DATA IMPORTS AND QUALITY CHECKS

ORD personnel downloaded data into the Division ABS from the CPC41 and began to run cost verification reports. Once the District operations and maintenance cost totals were verified by Division personnel, the COMB_DSS-D import mechanism was invoked to load the BY 95 work function data set. Because the Division ABS contains historic data, it was necessary to filter the Division ABS tables, only allowing passage of BY 95 data into the COMB_DSS-D. Work function data pertaining to the regulatory program was not included in the data transfer.

Once the data was imported into COMB_DSS-D, the logical checks were run. In all of the data integrity checks that were made, only logical check (13), which checks to ensure that subcosts are equal to total costs, indicated a remote problem with the database. This did not appear to be a problem, and the analysis and ranking process moved forward, but the quality report is summarized as follows:

CHECK WORKFUNC FOR SUBCOSTS NOT EQUAL TO TOTAL COST

WFNUM	DISTRICT	DSTNAM	TOTAL COST	TOTAL OF SUB COSTS
1	CH1	ORH	$1,100.00	$1,600.00
2	CH1	ORH	$1,000.00	$1,275.00
3	CH1	ORH	$165.00	$215.00
28	CH3	ORN	$100.00	$150.00
29	CH3	ORN	$75.00	$95.00

WFNUM	DISTRICT	DSTNAM	TOTAL COST	TOTAL OF SUB COSTS
31	CH3	ORN	$140.00	$210.00
32	CH3	ORN	$80.00	$100.00
33	CH3	ORN	$70.00	$90.00
34	CH3	ORN	$50.00	$65.00
233	CH2	ORL	$3,171.00	$4,171.00
1445	CH3	ORN	$140.00	$175.00
1475	CH1	ORH	$300.00	$370.00
1482	CH2	ORL	$209.00	$239.00
1483	CH2	ORL	$70.00	$86.00

WFNUM	DISTRICT	DSTNAM	TOTAL COST	TOTAL OF SUB COSTS
1626	CH2	ORL	$75.00	$85.00
1789	CH2	ORL	$22.00	$25.00
3404	CH3	ORN	$666.00	$746.00

The initial reports were run to generate total costs by District and funding level for comparison to verbal District reports and Division ABS reports. All of the cumulative costs, by District and funding level, matched perfectly, indicating that the COMB_DSS-D database was a solid starting point for analysis and ranking.

Additional reports were run, by feature cost code, to assess the distribution of proposed District budgets. Interestingly, the COMB_DSS-D FCCD reports did not match those generated by the Division ABS for the following reasons:

(1)   FCCD 19 is a sum of the corpssa and contrsa subcost columns between FCCDs 0 and 18.

(2)   Because the costs reported for FCCD 19 are really the sum of subcosts noted in (1), those subcosts are 'netted' out of their corresponding FCCD totals to avoid double counting.

(3)   FCCD 34 is a sum of the contred and corpsed subcost columns between FCCDs 20 - 33.

(4)   Because the costs reported for FCCD 34 are really the sum of subcosts noted in (3), those subcosts are 'netted' out of their corresponding FCCD totals to avoid double counting.

(5)   There were no work function data assigned an FCCD of 19 or 34.

The COMB_DSS-D was not designed to handle the type of FCCD report generated by the Division ABS system. As the design team discovered, Division personnel found looking at total costs by feature cost code (e.g., no netting of subcosts) extremely useful in the analysis process.

SCENARIO ANALYSIS

ORD personnel directed Districts to develop a budget that was 95 percent of the 1994 president's budget, which is currently set at approximately $206 million. The BY 95 guidance calls for Division ranks between 10000 and 27999 for level one and level two work functions,

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28000 - 28999 for waivers, and 29000 - 30000 for investments. To locate the maximum Division rank below the 28000 cutoff by District, an R:Base command file was written. Execution of this command file provided the maximum ranks by District, which were entered into primary scenarios as selection criteria. Four primary scenarios were developed, one for each District (Huntington, Louisville, Nashville, Pittsburgh). Once these scenarios were built, evaluated, and stored, they were used to generate an FCCD financial report, which provided total dollars by feature cost code and District.

Another constraint set forth by the HQ guidance circular was that operations was to comprise 75 percent of the budget and maintenance 25 percent. Two additional scenarios were developed for each District, one for operations and one for maintenance, which were constrained to a percentage of the total dollars found in the scenarios discussed previously. These scenarios were built, evaluated, and stored, allowing the Division to assess how closely the Districts followed the guidance. Additional scenarios were run, to generate totals for waivers and the entire set of work functions.

The design team found that, because the ranking process at the Division level differs significantly from the process at the HQ level, the Division scenario analysis leading up to the ranking is not as detailed and intense. That is, the Division guidance governs how the data is analyzed and what reports are desired. The scenario capabilities were not fully utilized and were used primarily to generate financial reports on subsets of work function data, rather than as aids in developing the detailed ranking, as is the case for the HQ system.

REPORT GENERATION

As discussed in Chapter II, detailed ranking reports are generated from the Division ABS by District, in ascending Division rank order, to be prioritized and integrated into a single Division pile during the ranking process. Because of network problems and other hardware conflicts, detailed report generation from the Division ABS was very time consuming.

The COMB_DSS-D also contains detailed ranking reports which can be generated when a scenario is built. The format of these reports was modified slightly while the design team was on-site to better suit ORD desires. Project class and feature cost code were added to the reports, based upon review and feedback from Division personnel. The design team built scenarios by District, and generated and printed the detailed ranking reports. The COMB_DSS-D ranking reports were used in the ranking process and contained six work functions per page, which significantly reduced the 'paper' piles generated and provided to each District.

RANKING PROCESS

In the current COMB_DSS-D design, the ranking process involves the assignment of the newrank field, which ultimately replaces the divrank field in the Division ABS when data exports occur. To automate a portion of the ranking process, COMB_DSS-D features were used which automatically assigned a divrank to newrank, by District, appropriation and FCCD group (O&M),

up to a certain divrank cutoff. All level one work function newranks were automatically set equal to divrank (i.e., Division rank 10000 - 19999) prior to manual ranking.

The manual ranking process took place in a conference room, and included District and Division personnel. The COMB_DSS-D prototype was moved, through the network, from the Maintenance Engineering office computer to the conference room computer. Work function data slated for manual ranking included those with Division ranks between 20000 and 29000. ORD personnel used the COMB_DSS-D to enter the newranks as work functions were reviewed, scrutinized, and prioritized. In short, Division personnel would indicate which work functions (or sets of work functions) should be considered for ranking, a discussion of District needs and Corps priorities ensued, and the winning Division ranks were called out for newrank assignment. The COMB_DSS-D computer operator entered the Division rank when called, retrieving the corresponding work function record, and entered the newrank. The operator tracked the newranks, assigning them in increments of three. This process continued up to the 95 percent cutoff (i.e., 95 percent of the 94 president's budget or approximately $200 million), which were assigned newranks between 20000 and 28000. The following ranking report was run, infrequently at first and more frequently as the ranking approached the funding cutoff, to ensure that work functions were not 'over-ranked' below 28000.

```
C  Appropriation   Max New Rank:  28000
Cost Breakout To Maximum New Rank:  28000    Date:  07/08/93   Time:  5:20:10

Operations       28000
===========
range          | ORH          ORL          ORN          ORP          (Total)
-----------    | ----------   ----------   ----------   ----------   ----------
10000-19999    | $35,167.00   $25,858.00   $24,739.00   $33,228.00   118,992.00
20000-27999    |    $140.00    $2,286.00    $1,677.00    $1,926.00    $6,029.00
-----------    | ----------   ----------   ----------   ----------   ----------
               | $35,307.00   $28,144.00   $26,416.00   $35,154.00   125,021.00

Maintenance      28000
===========
range          | ORH          ORL          ORN          ORP          (Total)
-----------    | ----------   ----------   ----------   ----------   ----------
10000-19999    | $11,171.00    $7,948.00   $15,580.00    $7,979.00   $42,678.00
20000-27999    |  $8,801.00    $7,791.00    $6,349.00    $9,475.00   $32,416.00
-----------    | ----------   ----------   ----------   ----------   ----------
               | $19,972.00   $15,739.00   $21,929.00   $17,454.00   $75,094.00

Total    28000
=====
range          | ORH          ORL          ORN          ORP          (Total)
-----------    | ----------   ----------   ----------   ----------   ----------
10000-19999    | $46,338.00   $33,806.00   $40,319.00   $41,207.00   161,670.00
20000-27999    |  $8,941.00   $10,077.00    $8,026.00   $11,401.00   $38,445.00
-----------    | ----------   ----------   ----------   ----------   ----------
               | $55,279.00   $43,883.00   $48,345.00   $52,608.00   200,115.00
```

This ranking and reporting method was used for level one and level two work functions up to waivers (i.e., all ranks less than 28000) and ended the first day of the ranking process. It should be noted that the above report, generated by the COMB_DSS-D, was not initially broken down into operations and maintenance. In consultation with Division personnel, this report was modified, to better 'track' guidance, prior to the start of the manual ranking process.

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Prior to beginning the second day of ranking, the design team wrote command files which computed the minimum Division rank by District, for operations and maintenance, that had not been assigned a newrank. This provided meeting attendees with a starting point for the development of the waivers (i.e., assignment of newrank between 28000 and 29000).

Once the assigned accumulated total of $200,000,000.00 was reached using this ranking method, the team assigned the next work function a number of 28001, which indicated the beginning of the waivers. Ranking in the second day continued until all the remaining level two work functions were assigned. At the conclusion of the meeting, the design team wrote a number of command files that automated the newrank assignment of all unassigned work functions. These command files placed all unassigned work functions into the appropriate funding level in ascending order. In consultation with Division personnel, waivers ran from newrank (28000 - 29500), due to the fact that there were more than 1000 work functions that met the waiver guidance criteria. Investments began at 29500.

During the waiver ranking process, a waivers report was written, which generated, by District, an ASCII file allowing the entry of a funding argument. This report was generated for all work functions with a newrank between 28000 and 29196, which comprised some $20 million in waiver work functions that were subject for funding. These were generated the following day, after further review and verification of the final budget, imported into WordPerfect, and sent to each District for completion. By computerizing the waiver report in this manner, the process of generating the needed waiver documentation on the part of the Districts was dramatically simplified.

DATA EXPORTS

The data export facilities were much like that of the import. The same Clipper '87 program was used to map fields with R:Base data conflicts and different data types to an intermediate .DBF file. This same Clipper program was used as an export program by passing it the proper command line parameters, which invoked it as an export routine rather than an import routine. The import procedure worked on a set of six different Division ABS .DBF data files, and their six R:Base counterpart tables. The export procedure, however, was called upon to update only the DIVRANK.DBF file in the Division ABS from the WORKFUNC table in the COMB_DSS-D, since all other reference tables were not modified from within the COMB_DSS-D.

The export procedure was also needed to map the COMB_DSS-D WORKFUNC table's newrank field into the Division ABS DIVRANK.DBF's divrank field. Several other command files where written to make necessary changes in the DIVRANK.DBF data, to properly reflect the new data received from the COMB_DSS-D. Consequently, all data within the Division ABS DIVRANK.DBF file was deleted prior to exporting COMB_DSS-D data into the Division ABS, which prevented the existence of any duplicate work functions.

IV. SUMMARY

DEVELOPMENT OF PROTOTYPE

The COMB_DSS-D was developed using an iterative, rapid prototyping approach. As shown during the course of developing the COMB_DSS-D, the development team found that extensive time and effort was saved from not having to develop detailed requirements and design specifications before the coding and testing process began. Rather, three versions of the prototype system were developed, each of which incrementally approached the decision support needs of ORD. Each prototype version allowed the user 'hands-on' experience with the system very early in the development cycle, thereby providing the development team with rapid feedback on what worked and what didn't work. Thus, the design team was able to respond with improved capabilities in a timely fashion.

The rapid prototyping approach proved to be beneficial to the client, ORD, as well. ORD personnel had direct input on the development of the three prototype versions, thereby creating software that directly reflected their needs. The development of reports, ranking, and waiver documentation appeared to run quite smoothly and simply, even in the highly time-compressed situation for the BY 95 effort.

ON-SITE TESTING

The third prototype version was installed for use in the analysis and ranking process typically carried out by Division personnel. The system was tested with rigor in the budget submittal process, and performed exceptionally for both Division personnel and the design team. A number of Division needs were met through the creation of command files (small application programs, written in the R:Base programming language), which queried the database and provided personnel with the requested information. Additional needs were met through modification of existing command files (those used in the third prototype version).

It must be noted that the availability of the on-site development team during the May ranking period allowed a high level of rapid customization of the system to the specific needs of ORD. Other Divisions may have other needs, not reflected in the system developed for ORD. It is not reasonable to expect that a development team can be 'in residence' for each Division that might use the system, to customize for that Division. Accordingly, if the system is to be fully fielded, the needs and desires of other Divisions must be taken into account, and a much higher level of training would need to be provided to Division personnel, assuming the absence of on-site development teams.

Report Modifications

A number of reports were modified to provide the Division with detailed work function ranks which contained information (e.g., feature cost code, project class) that is not found in the

Division ABS detailed ranking reports. These reports were developed to house information on six work functions per page, which decreased the amount of paper that had to be distributed to the Districts when the ranking process began.

An additional report was written to generate, by District, a waivers report that only required the input of a funding argument (i.e., all other information that is typically handwritten or generated by software outside of the COMB_DSS-D and Division ABS software by District personnel was obtained from the COMB_DSS-D tables and placed into the report). These reports contained one work function per page and were exported to ASCII files. The ASCII files were then imported into WordPerfect 5.1 and were sent to District personnel via CorpsMail for completion and submittal back to the Division. The Division then compiled all of the District waivers reports and, after review, forwarded them to HQUSACE.

FUTURE DIRECTIONS

The Division ABS software provided access to and from the mainframe computer. The COMB_DSS-D imported the data into R:Base, where all analysis, ranking, and reporting were conducted. The COMB_DSS-D was then used to export all of the Division's work function data (with revised ranks) back into the Division ABS. The Division ABS was then used to upload the final Division database back to OCE. Reports from the COMB_DSS-D, Division ABS, and the mainframe using Oracle were run throughout submittal process, to ensure that data was captured properly. Note that although the COMB_DSS-D had the capacity to edit all work function data, only the ranks were revised.

ORD was provided with a report, by the on-site development team, which allowed waivers to be exported from the COMB_DSS-D tables and placed into ASCII files. These reports were then imported into WordPerfect 5.1 and sent to District personnel via Corps Mail. As indicated by ORD personnel, a formal addition to the COMB_DSS-D report capabilities to eliminate the need for WordPerfect, would be desirable in future versions.

Another future enhancement suggested by ORD would be the addition of regulatory function data analysis. Regulatory function data is a separate portion of the budget, but is still dealt with by O&M personnel at the Ohio River Division. Note that the COMB_DSS-D is capable of processing regulatory work functions, if present, because all work functions are segregated by appropriation.

As indicated by ORD personnel, Divisions and Districts should have the same tools at their disposal. With this in mind, a District version of the COMB_DSS-D would aid Districts in preparing information that the Division will ultimately analyze using the COMB_DSS-D. A focus of attention in this direction would serve to bring the O&M budget support tools into a more centralized environment.

Multiple systems (i.e., District ABS, Division ABS, Mainframe ORACLE, COMB_DSS-D, and COMB_DSS), all of which are written in different programming languages for different platforms, are currently used to support the O&M budget submittal process. Perhaps these systems should be brought closer together, using a modernized tool (programming environment) that operates on multiple platforms, making the most effective use of the available computer hardware. It is hard to determine, at this point, whether or not the ultimate system should be centralized, decentralized (distributed), or a combination of both. The data requirements at all budget levels are similar enough to design a system with common file formats that support data editing, transfer, reporting, analysis, and ranking. It would appear that, through redesign and modernization of the systems currently used in the budget submittal process, a system can be developed which captures the needs of all three levels (i.e., HQUSACE, Division, and District). A three phase development cycle is recommended, in which design, iterative prototyping, and system finalization occur.

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APPENDIX A

COMB_DSS-D WALK THROUGH

A Preliminary Guide for Using the
Corps of Engineers' O&M Division
Budget Decision Support System - Division Version
(COMB_DSS-D)

District Budgets

COMB_DSS-D
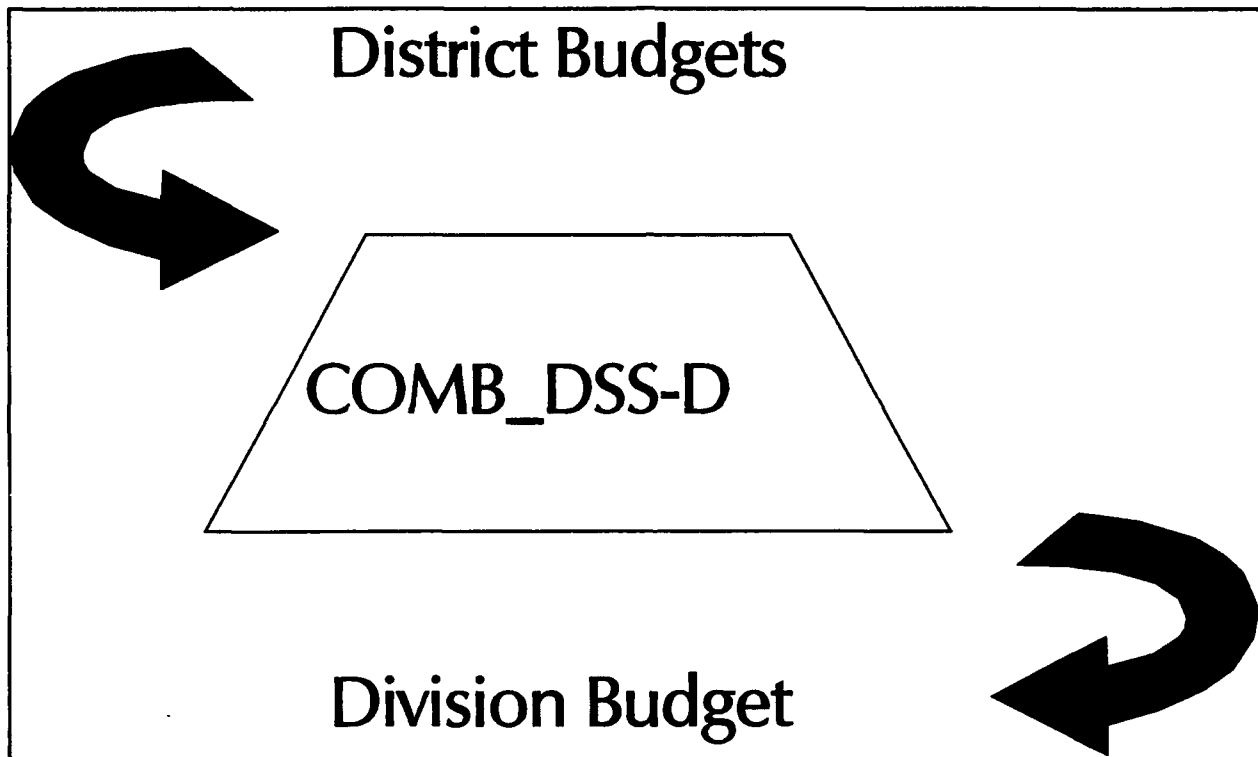
Division Budget

July 07, 1993

PREFACE

This document is a preliminary guide for using the Corps of Engineers' O&M Budget Decision Support System - Division Version (COMB_DSS-D). It is not a user guide nor does it contain technical documentation. Rather it lays out the tasks that must be accomplished to review District budget submissions, analyze Division impacts and select work functions that comprise the Division budget. A proposed method for using the COMB_DSS-D is described for each task. The screen snapshots and reports are taken directly from the COMB_DSS-D and the data shown is derived from FY 94 budget data.

This guide shows the possibilities for using the COMB_DSS-D during the Division analysis period.

TABLE OF CONTENTS

LIST OF COMB_DSS-D SCREENS

INTRODUCTION

Each year the Corps' Operation, Construction and Readiness Division develops a bottom-up budget to fund operations and maintenance activities for Corps projects. Thousands of work functions are prepared by project managers and passed up the chain of command to Districts, Divisions and Headquarters. At each level the budget requests must be reviewed according to existing policies, prioritized according to priorities at each level, and submitted to the next higher level. This process requires the management and analysis of thousands of work functions and computer tools can assist O&M managers in accomplishing this work.

The Corps of Engineers' O&M Budget Decision Support System (COMB_DSS) is one computer decision support tool developed under the Improvement of Operations Management Techniques (IOMT) research program. The COMB_DSS was developed in FY 92 for use by Headquarters. The COMB_DSS prototype was used during the FY 94 budget cycle analysis at Headquarters during July-August 1993. The system allowed Headquarters to develop many different budget scenarios quickly and analyze the impact of each one on the Divisions. The test was a success, and the development of a version of the decision support tool for Divisions was begun in FY 93. The COMB_DSS-D is the result of that effort.

The COMB_DSS-D was developed in concert with the Ohio River Division, the initial test Division for the system. The COMB_DSS-D follows the same basic framework as the COMB_DSS, but modifications have been made to better match the requirements of ORD. The COMB_DSS-D will be tested during the period 1-18 June 1994 using the FY 95 budget data submitted by each of ORD's four Districts.

This document provides a walk through using the COMB_DSS-D to assist with the review, analysis and ranking process that ORD conducts each year. The walk through shows some of the capabilities of the COMB_DSS-D and should be a reference guide for the actual process in June. The data used for the walk through is FY 94 budget data.

This document is structured according to the tasks that must be accomplished during the review, analysis and ranking process. These tasks are:

- District Data Import
- Data Quality Assurance
- Initial Reports
- Automatic Scenario Generation
- Manual Scenario Generation
- Financial Analysis
- Ranking
- Creation of Final Division Budget
- Division Data Export

A description of each task is followed by screen captures of the COMB_DSS-D and reports that are generated by the system. Additional technical documentation is included in Appendix B.

DIVISION BUDGET PROCESS TASKS

DISTRICT DATA IMPORT

The COMB_DSS-D operates in concert with, but separately from, the Division ABS program. The Division ABS program allows each Division to download all District data for a respective Division from the ABS database on a central computer located at WES and to print summary reports locally using a personal computer. The COMB_DSS-D is focused on data analysis and decision support rather than data management tasks. Thus, the COMB_DSS-D depends on the Division ABS to supply Division work function data. The COMB_DSS-D has an import and export capability to import Division data from the Division ABS and, after the Division has completed their budget analysis and decision-making, to export the data back to the Division ABS for uploading to the central ABS database.

The steps in the import process are :

(1)   The Division will download the data from the central ABS database at WES using the communication capability built into the Division ABS and GAPPL.

(2)   Summary reports can be run locally using the Division ABS to check for obvious errors. All errors should be corrected by Districts. [Alternately, at this point the data can be imported to the COMB_DSS-D. The COMB_DSS-D contains a quality assurance module to find common data errors and there is also an editing capability to modify, add and delete individual work functions.]

(3)   Once the Division database is correct, it can be imported into the COMB_DSS-D. The COMB_DSS-D operates on the dbase files used by the Division ABS. This assumes, however, that the Division ABS was installed in its default \DIVABS\ directory. Please note that all export operations will affect DIV ABS data files. At

this point, if desired, the user should select the import data option under the
Utilities main menu pillar.

Screen 1 shows the Utilities pillar from the main menu. The Import Data From
DIVABS item is second from the bottom, shown in bold.

Scenarios Financial Reranking Impacts Utilities

```
┌─────────────────────────────┐
│ Quit                        │
│ ─────────────────────────── │
│ Initial Reports             │
│ Quality Assurance           │
│ ─────────────────────────── │
│ Autogenerate Scenarios      │
│ Re-Run Scenarios            │
│ ─────────────────────────── │
│ Check Database              │
│ Backup Database             │
│ Pack Database               │
│ Rebuild Avail. Scen. Numbrs │
│ ─────────────────────────── │
│ Browse Any Table            │
│ View Any File on Disk       │
│ ─────────────────────────── │
│ Import Data From DIVABS     │
│ Export Data To DIVABS       │
└─────────────────────────────┘
```

Database: DSSABS

---

1   COMB_DSS-D Utilities Main Menu Pillar

Screen 2 shows the display after the import data option is selected. The warning reminds the user that the import process will overwrite any data that is already in the COMB_DSS-D data tables. Thus, the import procedure should only be done once at the beginning of the analysis period. The Yes - No message box gives the user a second chance to consider whether the import process should proceed. Selecting **Yes** starts the process, selecting **No** cancels the process.

```
      WARNING!!!! This routine will erase existing data in WORKFUNC,
and HOLDFUNC. You should run the BACKUP DATABASE option from the
UTILITIES PILLAR before running this import procedure.
```

```
┌─────────────────────────────────────────────┐
│                                             │
│   Create Temporary Import Files?   Yes  No  │
│                                             │
└─────────────────────────────────────────────┘
```

---

2   COMB_DSS-D Import Warning Screen

DATA QUALITY ASSURANCE

After importing the ABS data into the COMB_DSS-D the user should check the data using the quality assurance menu option under the Utilities pillar. This process examines the data to see if there are any logical inconsistencies, such as work functions with non-existent feature cost codes or invalid District codes. Screen 3 shows the Utilities pillar with the Quality Assurance item in bold (third from the top.) Note that the lines in any pillar are included to separate different groups of menu selections and do not perform any other function.

A-15

```
Scenarios  Financial  Reranking  Impacts  Utilities
                                        ┌──────────────────────────────┐
                                        │ Quit                         │
                                        │ ──────────────────────────── │
                                        │ Initial Reports              │
                                        │ Quality Assurance            │
                                        │ ──────────────────────────── │
                                        │ Autogenerate Scenarios       │
                                        │ Re-Run Scenarios             │
                                        │ ──────────────────────────── │
                                        │ Check Database               │
                                        │ Backup Database              │
                                        │ Pack Database                │
                                        │ Rebuild Avail. Scen. Numbrs  │
                                        │ ──────────────────────────── │
                                        │ Browse Any Table             │
                                        │ View Any File on Disk        │
                                        │ ──────────────────────────── │
                                        │ Import Data From DIVABS      │
                                        │ Export Data To DIVABS        │
                                        └──────────────────────────────┘


Database: DSSABS
```

3   Utilities Pillar

After selecting Quality Assurance, the user is presented with a display asking if the logical checks associated with the Quality Assurance should be performed. Screen 4 shows that display.

```
┌─────────────────────────────────────────┐
│                                         │
│  Perform Quality Assurance checks?  Yes  No  │
│                                         │
└─────────────────────────────────────────┘
```

4   Quality Assurance Dialog Box

Should the user elect to perform the quality assurance data checking, the next dialog box, shown in Screen 5, appears asking if the quality assurance reports should be paused after each separate check. This is useful if the reports are displayed on the screen, but is *not* necessary if the reports are directed to a file. **No** should be selected if the reports are to be sent to a file.

```
┌─────────────────────────────────────────────────┐
│  Pause after each query? (NO if not to screen)   Yes  No  │
│                                                             │
└─────────────────────────────────────────────────┘
```

5   Pause Dialog Box

The next display is an output selection check box. This display is presented to the user throughout the COMB_DSS-D whenever reports are to be generated. The user can select up to 2 selections. For example, the user can choose to send the output to the printer and a file. Of course, one destination can also be selected. Screen 6 shows the output selection check box. Note that if the report was routed to a file, a dialog box will appear, allowing the user to 'view' the file contents.

```
┌─────────────────────┐
│█ Printer            │
│█ Create text file...│
│█ Show on screen     │
└─────────────────────┘
```

Select Print Routing
Database: DSSABS

6   Output Selection Check Box

The next display shows the check box containing the different types of quality assurance data checking that can be done within the COMB_DSS-D. There are seventeen different checks that can be performed. The user selects quality assurance data checks by moving the light bar cursor to the desired selection and pressing <Enter> to place a check mark next to the item. Pressing <Enter> again removes the check mark. After the user completes the selection(s) press <F2> and the COMB_DSS-D performs the quality assurance checks.

Logic Checking Report   05/27/93

```
(1)   Check WORKFUNC for unique work func. numbers
(2)   Maximum and Minimum work function numbers
(3)   Check WORKFUNC for invalid Districts as referenced in DISTRICT
(4)   Check WORKFUNC for invalid FCCD as referenced in FEAT_TIT
(5)   Check WORKFUNC for invalid Projcls as referenced in CLASS
(6)   Check WORKFUNC for Appcode NOT "C", "E", or "F"
(7)   Check WORKFUNC for missing Category
(8)   Check WORKFUNC for missing CWIS number
(9)   Check WORKFUNC for missing Workfunc number
(10)  Check WORKFUNC for missing FuncID
(11)  Check WORKFUNC for missing Rank
(12)  Check WORKFUNC for output measure range (0-100)
(13)  Check WORKFUNC for 'subcost' columns not equal to totcost
(14)  WARNING - Total Cost is less than or equal to zero
(15)  WARNING - Zero or missing District rank in WORKFUNC
(16)  WARNING - Zero or missing Division rank in WORKFUNC
(17)  WARNING - Zero or missing OCE rank in WORKFUNC
```

Select Logical QC Checks
Database: DSSABS

---

7   Quality Assurance Report Check Box

Screen 8 shows the results of performing quality assurance check number 13 on the sample data. Several work functions have a total cost that is not equal to the sum of the subcost components. Each work function is listed where total cost does not equal the subcosts. The wfnum can be referenced to examine the work function using the editing capability within COMB_DSS-D.

```
9:51:37
CHECK WORKFUNC FOR SUBCOSTS NOT EQUAL TO TOTAL COST
---------------------------------------------------

WFNUM DISTRICT DSTNAM      TOTAL COST      TOTAL OF SUB COSTS
----- -------- ------      ----------      ------------------
    3 CH1      ORH         $1,100.00       $1,700.00
    7 CH1      ORH         $1,000.00       $1,275.00
    9 CH1      ORH           $165.00         $215.00
   25 CH3      OR+'          $425.00         $468.00
   35 CH3      ORN           $120.00         $150.00
   36 CH3      ORN            $75.00          $95.00
   37 CH3      ORN           $120.00         $150.00
   38 CH3      ORN            $90.00         $115.00
   39 CH3      ORN            $70.00          $90.00
   40 CH3      ORN            $50.00          $65.00
  260 CH2      ORL         $2,979.00       $3,979.00
  484 CH4      ORP           $380.00         $980.00
  498 CH4      ORP           $220.00         $520.00
 1466 CH2      ORL           $184.00         $214.00
 1467 CH2      ORL            $70.00          $86.00
 1473 CH2      ORL            $75.00          $85.00
 1482 CH3      ORN            $50.00          $65.00
 1500 CH2      ORL            $19.00          $21.00
 1822 CH3      ORN            $19.00          $18.00
 1902 CH4      ORP             $8.00          $25.00
 1959 CH1      ORH            $15.00          $17.00
 2069 CH1      ORH            $60.00          $25.00
 3183 CH3      ORN           $666.00         $746.00
 3414 CH1      ORH            $75.00         $105.00
```

8   Quality Assurance Output For Selection #13

INITIAL REPORTS

The initial reports provide information about the work functions currently in the COMB_DSS-D, without having to create, store, and generate scenarios. There are 11 initial reports available. Screen 9 shows the Utilities Pillar with the Initial Reports item appearing in bold as the second item.

```
Scenarios  Financial  Reranking  Impacts  Utilities
                                         ┌─────────────────────────────┐
                                         │ Quit                        │
                                         ├─────────────────────────────┤
                                         │ Initial Reports             │
                                         │ Quality Assurance           │
                                         ├─────────────────────────────┤
                                         │ Autogenerate Scenarios      │
                                         │ Re-Run Scenarios            │
                                         ├─────────────────────────────┤
                                         │ Check Database              │
                                         │ Backup Database             │
                                         │ Pack Database               │
                                         │ Rebuild Avail. Scen. Numbrs │
                                         ├─────────────────────────────┤
                                         │ Browse Any Table            │
                                         │ View Any File on Disk       │
                                         ├─────────────────────────────┤
                                         │ Import Data From DIVABS     │
                                         │ Export Data To DIVABS       │
                                         └─────────────────────────────┘


Database: DSSABS
```
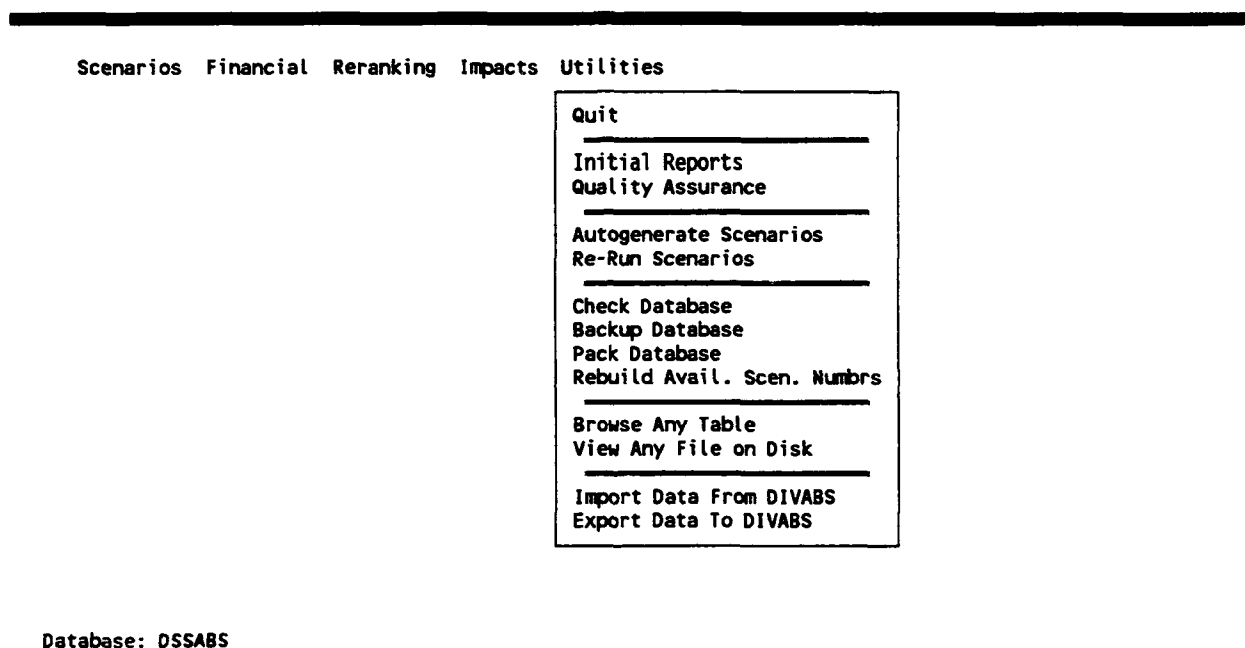
9   Utilities Pillar - Initial Reports Item

After highlighting the Initial Reports item under the Utilities pillar and pressing <Enter>, COMB_DSS-D displays a dialog box, shown in Screen 10, asking whether or not you really want to generate the Initial Reports. If you want to run initial reports, highlight **Yes** and press <Enter>. Selecting **No** will return execution to the Scenarios Pillar.

```
┌──────────────────────────────────────┐
│                                      │
│  Generate initial reports?   Yes  No │
│                                      │
└──────────────────────────────────────┘
```

10   Initial Reports Dialog Box

After answering **Yes** to the dialog box, the next dialog box, displayed in Screen 11, appears. As in the Quality Assurance Checks, this dialog box will cause initial reports displayed to the screen to pause before scrolling. Answer **No** to the dialog box if reporting to the printer and / or a disk file.

```
┌─────────────────────────────────────────────────────┐
│                                                     │
│  Pause after each report? (NO if not to screen)  Yes  No  │
│                                                     │
│                                                     │
└─────────────────────────────────────────────────────┘
```

11   Initial Report Pause Dialog Box

After entering the desired answer to the pause dialog box, COMB_DSS-D displays the Initial Report Selection Criteria screen. This screen, displayed in Screen 12, allows the user to control the work functions that will be used when running the initial reports. The user may enter Division Rank ranges, a funding level, FCCD ranges, appropriation code, or use zebra mussels only, as selection criteria. Initial reports 7 - 10 are cross-tab reports, that display information in tabular form, using a column for each District, and other information (e.g., funding levels, FCCDs, projects, etc.) as row information. The user has the option to select total cost, revised cost or total count of work functions as the information displayed within the cross-tab. Pressing <F2> will accept the selection criteria screen and continue. To use all the work functions within COMB_DSS-D, press <F2> as soon as the Initial Report Selection Criteria appears.

Screen 12 shows a sample Initial Report Selection Criteria screen, with all of its default values.

INITIAL REPORT CRITERIA SCREEN

DIV RANK Start Range: 0   DIV Rank End Range: 9999999

        Funding Level: *

    FCCD Start Range: 0.   FCCD End Range: 99.99

Use 1=SUM(TOTCOST), 2=SUM(REVCOST), 3=COUNT(WF_NUM) in crosstabs? : 1

        Enter APPROPRIATION CODE (C,E,F, * = ALL) : *

            USE ONLY ZEBRA MUSSEL WORK FUNCTIONS? : N

    Set DIV Rank ranges/Funding levels/FCCD ranges, F2 to exit, esc to quit

    Enter Funding level = * for all funding levels

---

12   Initial Report Selection Criteria Screen

Once all the desired selection criteria has been defined, press <F2>. All the available initial reports should now be displayed in a check box. The example in Screen 13 shows initial report 7 checked. This indicates the selection criteria will effect and produce only report #7. Press <F2> again to accept all the initial reports currently checked. To check all the reports simultaneously, press <Shift-F6>.

```
┌──────────────────────────────────────────────┐
│ (1)  Total $                                   │
│ (2)  Total $ by District                       │
│ (3)  Total $ by funding level                  │
│ (4)  Total $ by project class                  │
│ (5)  Total $ by FCCD                           │
│ (6)  Total $ by category                       │
│√(7)  Total $ by District;funding level         │
│ (8)  Total $ by District;project class         │
│ (9)  Total $ by District;FCCD                   │
│ (10) Total $ by District;category              │
│ (11) Count of zebra mussels by category        │
└──────────────────────────────────────────────┘
```

Select Query
Database: DSSABS

---

13   Initial Report Check List Box

Screen 14 shows the output routing check box that appears after selecting the initial reports. Note the example in Screen 14 shows two checks, one for the screen and one for a disk file.

```
┌────────────────────┐
│  Printer            │
│√ Create text file...│
│√ Show on screen     │
└────────────────────┘
```

Select Print Routing
Database: DSSABS

---

14   COMB_DSS-D Initial Report Check Box

Screen 15 shows the screen that appears when saving information to a disk file. You must enter a DOS drive, path and file name. If you enter a file name with no drive and path, the default is the current directory, in which the COMB_DSS-D resides. The example in Screen 15 uses 'output.txt' as a sample file name.

```
Enter the file name (d:\path\filename):
output.txt
```

15   Sample Output File Dialog Box

At this point all the initial reports selected will print, be displayed or be written to a text file. Screen 16 shows the sample output file generated by running initial report 7.

```
CROSSTAB of  SUM TOTCOST  by Districts and funding level
DIV Rank Ranges  0  Thru  9999999
    FCCD Ranges  0.  Thru  99.99
      Funding Level =  *
Appropriation Code =  ***
```

fundlev	ORD	ORH	ORL	ORN	ORP	(Total)
1	$0.00	46,677.00	33,737.00	40,968.00	45,406.00	166,788.00
2	$192.00	29,445.00	21,037.00	20,588.00	25,996.00	97,258.00
3	$0.00	$5,646.00	11,187.00	23,932.00	17,565.00	58,330.00
4	$0.00	$0.00	$30.00	$7,190.00	$730.00	$7,950.00
7	$0.00	$0.00	$0.00	$220.00	$0.00	$220.00
9	$0.00	$3,500.00	$0.00	19,835.00	$0.00	23,335.00
	$192.00	85,268.00	65,991.00	112,733.00	89,697.00	353,881.00

16   Sample Initial Report #7 Output

AUTOMATIC SCENARIO GENERATION

There are 3 types of scenarios: primary, SQL and composite. Since making a
scenario for each specific district would require considerable data entry time, several
scenarios are created automatically by COMB_DSS-D. These are SQL scenarios, that
may be used later in Financial Reports, after the user builds and stores them. The
scenarios that are defined may be edited and viewed by choosing the Enter/Edit/Clone
SQL item under the Scenario Pillar. These automatically generated scenarios will
provide access to work functions by district and appropriation code, as well as district,
appropriation code, and funding level. Screen 17 shows the Utilities pillar with the
Autogenerate Scenarios item, fourth from the top, in bold face.

Scenarios Financial Reranking Impacts Utilities

```
┌─────────────────────────────┐
│ Quit                        │
│ ─────────────────────────── │
│ Initial Reports             │
│ Quality Assurance           │
│ ─────────────────────────── │
│ Autogenerate Scenarios      │
│ Re-Run Scenarios            │
│ ─────────────────────────── │
│ Check Database              │
│ Backup Database             │
│ Pack Database               │
│ Rebuild Avail. Scen. Numbrs │
│ ─────────────────────────── │
│ Browse Any Table            │
│ View Any File on Disk       │
│ ─────────────────────────── │
│ Import Data From DIVABS      │
│ Export Data To DIVABS        │
└─────────────────────────────┘
```

Database: DSSABS

---

17   Autogenerate Scenarios Item

Once this option is selected, the scenarios are created. Messages are displayed
on the screen indicating progress as each scenario is created. Note that the COMB_DSS-
D will name these scenarios. If this option is run more than one time, it will not create

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duplicate scenarios, since an automatically generated scenario will be created **only** if has not been previously created.

Some example scenario names that are automatically generated include: ORH_APPC and ORH_APPF (District ORH appropriation C and F), ORH_AF1 (District ORH, appropriation F, funding level 1). There are similar names for all other Districts found in the WORKFUNC table. COMB_DSS-D will only create scenarios from District codes and funding levels that exist in the WORKFUNC table. This assures that a scenario will produce valid results.

Once the auto-generated scenarios are created, the user must store, and build these scenarios before they will generate financial reports. See screen 28 later in this document on storing and building scenarios.

MANUAL SCENARIO GENERATION

Unlike the automatic scenarios which are pre-built, the COMB_DSS-D allows the user to create a variety of scenarios that can reflect groupings of work functions that are of interest. As previously mentioned, there are three types of scenarios, primary, composite and SQL. This guide will show how to build each type of scenario manually.

The first scenario will include all work functions within the Division that belong to funding level 1. This is a primary scenario. Primary scenarios must be specified using the Enter/Edit/Clone Primary Scenario option under the Scenario main menu. First, the primary scenario is specified, then the scenario is executed so that the work functions that belong to the scenario can be identified and stored.

Screen 18 shows the Scenario main menu with the drop-down options for scenario management.

```
Scenarios  Financial  Reranking  Impacts  Utilities
┌─────────────────────────────┐
│ Enter/Edit/Clone Primary    │
│ Enter/Edit/Clone Composite  │
│ Enter/Edit/Clone SQL        │
│ Scenario Description Rpts   │
│ Delete Scenario             │
│ Check Scenario Dependencies │
│ Change Scenario Name        │
│ Edit Scenario Report Titles │
│ ─────────────────────────── │
│ Store Many Scenarios        │
│ Select Scenario             │
│ Build Temporary Scenario    │
│ Evaluate Temporary Scenario │
│ Store Temporary Scenario    │
│ Browse Temporary Scenario   │
│ Recall Temporary Scenario   │
│ Force Cumulative Cost Calc. │
│ Check Scenario Status       │
│ Edit/Browse/Move WFunctions │
└─────────────────────────────┘

  Database: DSSABS
```

---

18   Scenario Pillar

Upon selecting the Enter/Edit/Clone Primary item, a pop-up box will appear (Screen 19) that offers choices for creating (entering), editing or cloning a scenario. To create a new scenario, the user selects 'Enter'.

```
Scenarios  Financial  Reranking  Impacts  Utilities
┌─────────────────────────────┐
│ Enter/Edit/Clone Primary    │
│ Enter/Edit/Clone Composite  │
│ Enter/Edit/Clone SQL        │┌──────┐
│ Scenario Description Rpts   ││Enter │
│ Delete Scenario             ││Edit  │
│ Check Scenario Dependencies ││Clone │
│ Change Scenario Name        ││Quit  │
│ Edit Scenario Report Titles │└──────┘
│ ─────────────────────────── │
│ Store Many Scenarios        │
│ Select Scenario             │
│ Build Temporary Scenario    │
│ Evaluate Temporary Scenario │
│ Store Temporary Scenario    │
│ Browse Temporary Scenario   │
│ Recall Temporary Scenario   │
│ Force Cumulative Cost Calc. │
│ Check Scenario Status       │
│ Edit/Browse/Move WFunctions │
└─────────────────────────────┘

Database: DSSABS
```

19   Primary Item And Pop-up Box

The next display presents the user with the first scenario specification screen (Screen 20). The specifications are entered to create a scenario named 'orhlev1' that contains work functions that have a 'C' appropriations code (O&M General) and have a division rank between and including 10000 and 19999. The description and note fields are for user descriptions of the scenario and elaborate on the name of the scenario. The scenario number is a number assigned to the scenario by the user. There can be up to 512 unique scenarios. The COMB_DSS-D insures that each user-defined scenario is unique, thus preventing any confusion when editing and printing reports.

```
Add/discard  Go to  Exit

┌─────────────────────────────────────────────┐        ┌───────┐          ┌──────────┐
│ Name      Approp      Low Use Navigation     │  DST   │       │  CLASS   │          │
│ orhlev1      C                               │        │       │          │          │
│                                              │        │       │          │          │
│ 10000  to   19999    Division Ranks          │        │       │          │          │
│                                              │        │       │          │          │
│        to            Output Measure          │        └───────┘          │          │
│                                              │                           │          │
│        to            User 1                  │                           │          │
│                                              │                           │          │
│        to            User 2                  │                           │          │
│                                              │                           │          │
│    Min Cost          Cumulative Cost   A/D   │                           │          │
│                                              │                           │          │
└─────────────────────────────────────────────┘                           │          │
                                                                           │          │
   #   Description                                                         │          │
   57   ORD level 1 work functions in O&M appropriation                    │          │
  Notes                                                                    │          │
                                                                           │          │
                                                                           │          │
                                                                           │          │
                                                                           │          │
                                                                           │          │
                                                                           └──────────┘

  Form: primscn4  Table: scendesc          Field: scennotes          Page: 1
```

20   Initial Primary Scenario Specification

The user may also enter specific District codes and class codes to further filter
desired work functions. To move from one region of the screen to another, use **<Shift-
F8>**. For example, the DST and CLASS boxes shown on Screen 20 are regions which
allow entry into different R:Base tables than the information on the left side of the
screen. R:Base uses the **<Shift-F8>** key to transfer data entry from one table to another.
The second scenario specification screen is showed in Screen 21.

```
  Edit  Go to  Exit
Scenario              CWIS            DIV Ranks        Feature Cost Codes

ordlevl           ┌─────────┐      ┌────────┐        ┌────────┐
                  │         │      │        │        │        │
                  │         │      │        │        │        │
                  │         │      │        │        │        │
                  │         │      │        │        │        │
                  │         │      │        │        │        │
                  │         │      │        │        │        │
                  │         │      │        │        │        │
                  │         │      │        │        │        │
                  │         │      │        │        │        │
                  │         │      │        │        │        │
                  │         │      │        │        │        │
                  │         │      │        │        │        │
                  └─────────┘      └────────┘        └────────┘
No editable data in this table
Form: primdetl  Table: primscen        Field: scenname        Page: 1
```

21   Second Primary Scenario Specification

Note the scenario name is displayed, but may not be edited here. The user may specify a list of CWIS numbers, Division ranks and FCCDs to either include or exclude specific range(s) from the scenario. Use < Shift-F8 > to switch data entry from one box to another. Note the status line at the bottom of the screen shows the current active table. After leaving the screen shown in Screen 21, the scenario data is saved.

The next screen shows the prompt in which the COMB_DSS-D asks the user to enter another scenario specification.

```
┌─────────────────────────────────┐
│                                 │
│   Enter Another   Yes  No       │
│                                 │
└─────────────────────────────────┘
```

---

22   Enter Another Scenario Dialog Box

Entering, editing and cloning a composite scenario is similar to that of a primary scenario. Screen 22 shows the Scenario pillar with the Enter/Edit/Clone Composite item shown in bold face.

Scenarios Financial Reranking Impacts Utilities

```
┌─────────────────────────────────┐
│ Enter/Edit/Clone Primary        │
│ Enter/Edit/Clone Composite      │
│ Enter/Edit/Clone SQL            │
│ Scenario Description Rpts        │
│ Delete Scenario                 │
│ Check Scenario Dependencies     │
│ Change Scenario Name            │
│ Edit Scenario Report Titles     │
│ ─────────────────────────────── │
│ Store Many Scenarios            │
│ Select Scenario                 │
│ Build Temporary Scenario        │
│ Evaluate Temporary Scenario     │
│ Store Temporary Scenario        │
│ Browse Temporary Scenario       │
│ Recall Temporary Scenario       │
│ Force Cumulative Cost Calc.      │
│ Check Scenario Status           │
│ Edit/Browse/Move WFunctions     │
└─────────────────────────────────┘
```

Database: DSSABS

---

23   Scenario Pillar and Enter/Edit/Clone Composite Item

Upon selecting the Enter/Edit/Clone Composite item the next display shows a pop-up box that offers choices for creating (entering), editing or cloning a composite scenario. To create a new composite scenario, the user selects **Enter** from the pop-up box.

```
Scenarios  Financial  Reranking  Impacts  Utilities
┌─────────────────────────────┐
│ Enter/Edit/Clone Primary    │
│ Enter/Edit/Clone Composite  ┌──────────┐
│ Enter/Edit/Clone SQL        │ Enter    │
│ Scenario Description Rpts    │ Edit     │
│ Delete Scenario             │ Clone    │
│ Check Scenario Dependencies │ Quit     │
│ Change Scenario Name        └──────────┘
│ Edit Scenario Report Titles │
├─────────────────────────────┤
│ Store Many Scenarios        │
│ Select Scenario             │
│ Build Temporary Scenario    │
│ Evaluate Temporary Scenario │
│ Store Temporary Scenario    │
│ Browse Temporary Scenario   │
│ Recall Temporary Scenario   │
│ Force Cumulative Cost Calc. │
│ Check Scenario Status       │
│ Edit/Browse/Move WFunctions │
└─────────────────────────────┘

Database: DSSABS
```

---

24   Composite Item And Pop-up Box

There is one screen for entering and editing composite scenarios, as shown in Screen 25.

```
    Edit  Go to  Exit
                     Composite Scenario Data Entry/Edit Form

  Scenario Name: orh_1_2_  Number: 75   # wf: 2843   tot $ : $258,693.00

  Description: ORH funding levels 1 & 2.

  Notes: This composite scenario is created by taking the union of primary
         scenarios 'ORHLEV1', and 'ORHLEV2'.  This in effect combines the
         two primary scenarios to create output for this scenario.


            Code  Scenario Name
           ┌──────────────────────┐
           │  U    orhlev1        │
           │  U    orhlev2        │
           │                      │
           │                      │
           │                      │
           │                      │
           │                      │
           └──────────────────────┘

  Form: compedt1  Table: scendesc        Field: scendesc        Page: 1
```

25   Composite Data Entry Screen

A list of primary, composite, or SQL scenarios can be combined by taking the union as in the above example, an intersection, or by subtracting the resulting scenarios from the intersect scenarios. You cannot mix union with intersect and subtract scenarios. You must also have at least two union or intersect scenarios when creating union or intersect composite scenarios. Subtractions are allowed only in conjunction with the intersect scenario type.

Note the top line on the composite scenario data entry screen contains a display field for the number of work functions and total dollars of all the work functions that meet the criteria. These fields will not be updated unless you build, and subsequently store the composite scenario. Likewise, any edits will not be reflected in these fields unless you build and store the scenario again.

Screen 26 shows the Scenario pillar with the next scenario type, SQL, shown in bold face.

```
Scenarios  Financial  Reranking  Impacts  Utilities
┌─────────────────────────────────┐
│ Enter/Edit/Clone Primary        │
│ Enter/Edit/Clone Composite      │
│ Enter/Edit/Clone SQL            │
│ Scenario Description Rpts        │
│ Delete Scenario                  │
│ Check Scenario Dependencies      │
│ Change Scenario Name             │
│ Edit Scenario Report Titles      │
│ ─────────────────────────────── │
│ Store Many Scenarios             │
│ Select Scenario                  │
│ Build Temporary Scenario         │
│ Evaluate Temporary Scenario      │
│ Store Temporary Scenario         │
│ Browse Temporary Scenario        │
│ Recall Temporary Scenario        │
│ Force Cumulative Cost Calc.      │
│ Check Scenario Status            │
│ Edit/Browse/Move WFunctions      │
└─────────────────────────────────┘

Database: DSSABS
```

---

26   Scenario Pillar Enter/Edit/Clone SQL Item

Once selected the same small pop-up box seen when selecting primary and composite scenarios appears, asking whether creating (entering), editing, or cloning SQL scenarios are desired. To add a new scenario, highlight the 'Enter' item and press the <Enter> key. Screen 27 shows the resulting SQL scenario data entry screen.

```
    Edit  Go to  Exit
                       SQL Scenario Data Entry/Edit Form

 Scenario Name: orhzebra    Scenario Number: 80

 Description: ORH Zebra mussel work functions only.

 Notes: -0-




 Where Clause:
 descrip contains 'ZEBRA' and dstnam = 'ORH'




 Test SQL? N

  Form: sqledit1  Table: scendesc          Field: scennotes          Page: 1
```

27   SQL Data Entry Screen

In this example, note a special reference made to the 'descrip' using the R:Base **contains** command. All work functions with the word 'zebra' anywhere in the descrip field will be retrieved. The 'and' indicates we are adding additional criteria, which, in this case, forces only work functions with the **dstnam** field with 'ORH' in them to be used. In short, only work functions with 'zebra' anywhere in the descrip *and* dstnam – 'ORH' will be used when storing and building this scenario. You may add many other selection criteria items by adding more clauses with 'and' or 'or'. See the R:Base manual for more details on building R:Base queries with 'where' clauses.

BUILDING AND STORING SCENARIOS

After the specification of a scenario is complete the user must store and build the scenario. The easiest and most direct way to accomplish that task is to select the 'Store Many Scenarios' item from the Scenarios pillar. Screen 28 below shows the Scenario pillar with the 'Store Many Scenarios' item as the first selection in the second grouping shown in bold face.

```
Scenarios  Financial  Reranking  Impacts  Utilities

┌─────────────────────────────────┐
│ Enter/Edit/Clone Primary        │
│ Enter/Edit/Clone Composite      │
│ Enter/Edit/Clone SQL            │
│ Scenario Description Rpts        │
│ Delete Scenario                  │
│ Check Scenario Dependencies      │
│ Change Scenario Name             │
│ Edit Scenario Report Titles      │
│─────────────────────────────────│
│ Store Many Scenarios            │
│ Select Scenario                  │
│ Build Temporary Scenario         │
│ Evaluate Temporary Scenario      │
│ Store Temporary Scenario         │
│ Browse Temporary Scenario        │
│ Recall Temporary Scenario        │
│ Force Cumulative Cost Calc.      │
│ Check Scenario Status            │
│ Edit/Browse/Move WFunctions      │
└─────────────────────────────────┘

Database: DSSABS
```

28   Scenario Pillar - Store Selected Scenarios

Pressing <Enter> on this item will cause COMB_DSS-D to display the check list box shown in Screen 29. This list will contain all of the scenarios that have been entered to date. The letter next to the scenario name shows the type of scenario: P = primary, C = Composite, S = SQL. Note that our example has the automatically generated scenarios, as well the primary and sql scenarios we created earlier within the check list. Our example in Screen 29 shows a check next to the composite scenario we just built. Pressing <F2> will cause

COMB_DSS-D to accept all scenarios having a check next to them to be used in the building process.

Choose Scenarios (esc to return):

```
┌──────────────┐
│ ORD_AC1  S   │
│ ORD_AC2  S   │
│ ORD_AC3  S   │
│ ORD_AC4  S   │
│ ORD_AC7  S   │
│ ORD_AC9  S   │
│ ORD_AF1  S   │
│ ORD_AF2  S   │
│ ORD_AF3  S   │
│ ORD_AF4  S   │
│ ORD_AF7  S   │
│ ORD_AF9  S   │
│ ORD_APPC S   │
│ ORD_APPF S   │
│ orhlev1  P   │
│ orhlev2  P   │
│ orhzebra S   │
│√ orh_1_2 C   │
│▌ ORH_AC1 S   │
└──────────────┘
```

Database: DSSABS

---

29   Select Scenario Check List Box

The COMB_DSS-D then prints a list with the scenario name, type and description displayed with a message box asking the user if (s)he wants to execute the listed scenarios. This can be seen in Screen 30.

```
Scenarios selected:

orh_1_2   c   ORH funding levels 1 & 2.




                    ┌─────────────────────────────────────┐
                    │                                     │
                    │  Build These Scenarios?  Yes  No     │
                    │                                     │
                    └─────────────────────────────────────┘
```

30   Build scenario verification screen

The next check box allows the user to specify what reports are to be generated based on the results of the scenario execution. It is not necessary to select reports at this time, but they can be directed to the printer, the screen or a file as with other output from the COMB_DSS-D. Note that the detailed funding argument reports are shown as the last three menu items in Screen 31.

Choose desired reports:

```
District Name
Project Class
Fccd Prefix
Fccd Full
District & FCCD
Project Summary
Project FCCD Summary
Ranking List - District, Project
Ranking List - Division Rank Ascending
Ranking List - Division Rank Inverted
```

Tempscen Reports
Database: DSSABS

31   Report selection screen for scenario execution

These last three reports provide results closely related to the work function reports
derived from the DIV ABS and used by ORD in the ranking process. As with all check
lists, press <Shift-F6> to check all the reports at once, or use the arrow keys and
<Enter> to select those desired. Pressing <F2> will generate the desired reports to
the chosen location (printer, screen, or file).

FINANCIAL ANALYSIS

The financial analysis items located under the Financial pillar (shown in Screen 32) are used to select reports and options supporting those reports. These are essentially reports that allow separate scenarios that have already been built to be viewed side-by-side in a variety of formats which will be shown later in this section. The user may see up to seven scenarios side-by-side.

Scenarios   Financial   Reranking   Impacts   Utilities

```
Select Appropriation Code
Select Scenarios
Show Selected Scenarios
Scenario Reports/Exports
Edit Targets/Titles
Regenerate Scenario Reports
Generate Summary Tables
Browse FCCD Tables
District FCCD Scenario Rpts
```

Database: DSSABS

32   Financial Pillar

The first item in the Financial pillar should be selected to set the desired appropriation code. A selection menu appears as seen in Screen 33 to allow the user to highlight and select an appropriation code.

```
C GEN Operations and Maintenance, General Appropriation
E MRT Mississippi River and Tributaries
F GRG Regulatory Programs
```

Appropriation Options
Database: DSSABS

33   Appropriation Code Selection Menu

After pressing <Enter> on the desired appropriation code, select the Select

Scenarios item under the Financial pillar. Screen 34 shows the resulting screen

containing a check list containing all the previously built scenarios. Note that if the

desired scenario is not in the list, you must build and store the scenario. If it still does

not appear, the scenario may have produced an error or an empty set during the building

process. The example shown selects the two primary scenarios and the composite

scenario checked for use in the financial analysis. These scenarios are processed in the

order in which they were checked.

Choose Scenarios (esc to return):

```
                    ↑
          █ ORH90EXC
          █ ORH90EXF
          █ ORH91EXC
          █ ORH91EXF
          █ ORH92EXC
          █ ORH92EXF
          █ ORH93EXC
          █ ORH93EXF
          █ ORH94EXC
          █ ORH94EXF
          √ orhlev1
          √ orhlev2
          √ orh_1_2
          █ ORH_AC1
          █ ORH_AC2
          █ ORH_AC3
          █ ORL89EXC
          █ ORL89EXF
          █ ORL90EXC
                    ↓
```

Database: DSSABS

34   Financial Scenario Check List

Screen 35 shows a dialog box with all the selected scenarios at the top of the screen. These scenarios are in the columns and order they will appear on the reports. The Show Selected Scenarios item under the Financial pillar will display the same screen as shown in Screen 35. If these are the desired scenarios, answer **Yes** to the dialog box.

```
orhlev1    orhlev2   orh_1_2_  -0-       -0-        -0-        -0-
```

```
┌─────────────────────────────────────────┐
│                                          │
│   OK to proceed (esc to return)  Yes  No │
│                                          │
└─────────────────────────────────────────┘
```

35   Financial Scenario Confirmation Screen

Next, select the Scenario Reports/Exports item under the Financial Pillar. Another check list box shown in Screen 36 appears. Note that there are 5 reports that may be printed and 5 options that allow exporting. If selecting any of the exporting options, you will be prompted to enter a file name. This file name will store the ASCII delimited results of the selected export options. This ASCII delimited file is intended to allow the financial analysis results to be transferred to other software products such as Lotus for further analysis.

Choose desired reports (esc to return to menu):

```
┌──────────────────────────────────────┐
│ √ District Name         (Print)      │
│ √ Project Class         (Print)      │
│ √ Fccd Prefix           (Print)      │
│ √ Fccd Full             (Print)      │
│ √ Major Class Breakout  (Print)      │
│ ▌District Name          (Export)     │
│ ▌Project Class          (Export)     │
│ ▌Fccd Prefix            (Export)     │
│ ▌Fccd Full              (Export)     │
│ ▌Major Class Breakout   (Export)     │
└──────────────────────────────────────┘
```

36   Financial Report and Export Check List

After pressing <F2> from the financial report and export check list, a series of crosstabs and other functions will execute, building the tables needed for report and export file generation. After completion, the routing output screen as seen in Screen 37 appears.

```
┌─────────────────────┐
│ Printer             │
│ Create text file... │
│ Show on screen      │
└─────────────────────┘
```

Select Print Routing
Database: DSSABS

37   COMB_DSS-D Output Routing Check Box

It is recommended that these reports be printed or sent to a disk file, since they will wrap around a display screen and take two rows per line. This makes viewing to the screen difficult. The reports are currently setup for HP Laserjet printers, and will print in landscape and/or condensed mode when needed. After pressing <F2> from the output routing check box, the reports and exports will be sent to the selected output.

Other items in the Financial pillar allow for targets and report titles to be edited, scenario reports to be reprinted if the titles or targets are edited, generation of FCCD prefix and detail tables, browsing of the resulting FCCD prefix and detail tables, and creation of the District FCCD scenario reports.

RANKING

The Reranking pillar provides the functionality necessary to edit the 'newrank' field of all the work functions in the WORKFUNC table. Note that all the items in the Reranking pillar below the double line will not be discussed, since those items were used in the HQUSACE COMB_DSS version. The items above the double line are those designed per consulting ORD personnel on their ranking techniques. The newrank field is used to hold the initial Division rank fields. The Division is provided with three ways of changing work function ranks. Typically the Division ranks that are imported into the COMB_DSS-D are bogus as a result of shuffling Districk ranks, and need careful attention in preparing the final budget for submittal. The export facility will then copy all work functions back into the Division ABS DIVRANK.DBF file, mapping the WORKFUNC newrank field into the divrank field. Screen 38 shows the Reranking pillar.

```
Scenarios  Financial  Reranking  Impacts  Utilities
                      ┌─────────────────────────────┐
                      │ Edit Newrank for Range       │
                      │ Edit Newrank (single)        │
                      │ $ by District Report         │
                      │ Set Newrank from Divrank     │
                      │ Clear Newrank for Range      │
                      │ Move Newrank to Divrank      │
                      │ Restore Divrank, Newrank     │
                      ├─────────────────────────────┤
                      │ Assign/Edit Scores (Form)    │
                      │ Assign/Edit Scores (Browse)  │
                      │ List Scenario Scores         │
                      │ Generate WF Scores           │
                      │ Evaluate WF Scores           │
                      │ Re-Rank WorkFunctions        │
                      └─────────────────────────────┘




  Database: DSSABS
```

38   Reranking Pillar

As discussed with ORD, the first step in the reranking process is to assign a certain range of existing division ranks to the 'newrank' field for each District. This can be accomplished by selecting the fourth item in the reranking pillar, Set Newrank From Divrank. Once this item is selected, Screen 39 can be seen. This screen allows a Division rank cutoff to be entered for appropriation codes C and F for each District in the database. If all the 'maxrank' fields were filled in with 99999, all of the existing Division ranks in the WORKFUNC table would be copied to the 'newrank' field. However, if 28000 was placed in maxrank field, then only Division ranks up to the waiver cutoff would be copied to newrank.

```
  Sort  Edit  Calculate  Layout  Query  Manage views  Print  Exit
  dstnam | appcode | maxrank

  ORD    C              99999
  ORD    F              99999
  ORH    C              99999
  ORH    F              99999
  ORL    C              99999
  ORL    F              99999
  ORN    C              99999
  ORN    F              99999
  ORP    C              99999
  ORP    F              99999
```

Database: DSSABS Table: rankdflt Read   F4 to Browse   Edit

39   Maximum Newrank Range Selection

Use the <Tab> and <Shift-Tab> keys to move from field to field, and the <↑> and <↓> keys to move from row to row. Note that the fields displayed in red are not editable.

After setting the newrank ranges, a dialog box, seen in Screen 40, is displayed, asking if you want to begin setting the newrank fields in all the work functions according to the Division rank cutoffs. Answering **Yes** will proceed, setting all newrank fields = Division rank for all Division ranks up to the maximum newrank entered.

Note: This process will overwrite newrank values
      if you choose to create newrank ranges

```
Create newrank ranges now?  Yes  No
```

---

40   Max Newrank Data Entry

Next, the task of preparing the final budget commences through a series of edits to the newrank field using the first and second items of the Reranking pillar, and the reporting available through the third item. The newrank field may be edited by filtering a range of Division rank work functions, or by entering a specific Division rank. Screen 41 shows the screen that appears when choosing the first item from the reranking pillar, Edit Newrank for Range. This item will allow the user to edit the newrank field by selecting a range of Division rank work functions.

```
Start Range: 0

End Range:   99999

Set Division Rank Ranges, F2 to exit, esc to quit
```

41   Division Rank Range Selection

After entering the Division rank range and pressing the < **F2** > key, a pop-up menu selection box appears asking for the desired appropriation code. After selecting the correct appropriation code, Screen 42 appears, asking for the type of newrank data entry form to use.

```
┌─────────────────────────┐
│ F Form (Single-row) Oriented │
│ M Form (Multi-row) Oriented  │
│ T Table Oriented             │
└─────────────────────────┘
```

```
Choose Desired Type of Edit                    -
Database: DSSABS
```

42   Newrank Data Entry Form Selection

Selecting the single-row oriented form will display a data entry form shown in Screen 43.

```
    Edit  Go to  Exit
                          NewRank Modification Form

    Division Rank:  10003     Newrank:  10003     Last Max Newrank:  90108

Dst  Div  Cls Wf_Num   CWIS       Yr  Rank DstRank    OCERank    Fund Level
CH1  ORD  NL  3        13170      94  0    10005      4210003       1

cofmarid: -0-       orgcode: -0-  category: D01 FCCD: 33.11 Funcid: 5

$: totcost: $1,100.00              lowuse:   -     inspectd:    0000
  contracts: $1,040.00             typdreg: CA  constraint: -
  dirlabor: $6.00
   contred: $0.00                  output measure: 0
   corpsed: $2.00                  user1:           -0-
   contrsa: $0.00                  user2:           -0-
   corpssa: $50.00
    totdreg: $600.00               Bid: -0-      Adv: -0-      Lvl: -0-
  contcontr: $0.00

Description: CHANNEL MAINTENANCE DREDGING
Argument1:   PROV MIN PROJ DIM FOR 311 MILE NAV CHAN & 6 LOCKS & DAMS
Argument2:   -0-

Form: newrank   Table: workfunc         Field: newrank              Page: 1
```

43   Single-Row Newrank Data Entry

When editing a range of work functions from the single-row oriented form, pressing <F7> and <F8> will display the previous and next work functions in the range respectively.

Selecting the multi-row oriented form will display the screen shown in Screen 44.

```
    Edit  Go to  Exit
NEWRANK MULTI-ROW DATA ENTRY:
                                         Last Maximum Newrank: 90108

Div-  New-
rank  rank  Dst FCCD  Total Cost  Description

10003 10003 ORH 33.11 $1,100.00   CHANNEL MAINTENANCE DREDGING
10006 10006 ORH 33.11 $1,000.00   CHANNEL MAINTENANCE DREDGING
10009 10009 ORH 33.11 $165.00     RESTORE PROJ DEPTH LOCK APPROACH AND
10012 10012 ORN 01.1  $3,458.00   LOCK OPERATIONS
10015 10015 ORN 01.1  $500.00     LOCK OPERATIONS
10018 10018 ORH 01.1  $6,225.00   BASIC OPER AND ORDINARY MAINT OF SIX NAV
10021 10021 ORN 01.1  $316.00     LOCK OPERATIONS
10024 10024 ORN 22.1  $2,224.00   LOCK ROUTINE MAINTENANCE
10027 10027 ORN 22.1  $220.00     LOCK ROUTINE MAINTENANCE
10030 10030 ORN 22.1  $324.00     LOCK ROUTINE MAINTENANCE
10033 10033 ORN 22.1  $174.00     LOCK MAINT AT CARETAKER STATUS
10036 10036 ORN 22.1  $116.00     LOCK MAINTENANCE AT CARETAKER STATUS
10039 10039 ORP 01.1  $7,128.00   OPERATE EMSWORTH-HANNIBAL 24 HRS/DAY 7
10042 10042 ORN 07.11 $262.00     NAVIGATION CONDITION SURVEYS
10045 10045 ORN 07.11 $87.00      NAVIGATION CONDITION SURVEYS
10048 10048 ORN 07.11 $52.00      NAVIGATION CONDITION SURVEYS

Form: newrank3  Table: workfunc       Field: newrank         Page: 1
```

44   Multi-row Newrank Data Entry Form

Note that the last maximum newrank is displayed in the upper-right side of the screen, and all fields except newrank are displayed in red indicating they are for display purposes only. To move within the Newrank field, press <Enter> when the newrank is entered. The cursor will then advance to the next work function. Pressing <F7> and <F8> will move the cursor to the previous and next row respectively. This form is useful when editing several work functions since 16 work functions are visible at a time.

The last method of editing the newrank field for a range is using the table oriented form. This form uses the built-in R:Base browse utility. Screen 45 shows this form. It is very similar to the multi-row oriented form discussed previously, but does not display the last maximum newrank used or as many work functions on the screen at one time. Note that all of the fields except the newrank field are shown in red, in a fashion similar to that of the multi-row oriented form.

```
 Sort  Edit  Calculate  Layout  Query  Manage views  Print  Exit
 divra | newra | dst | fccd | totcost | descrip

10003  10003   ORH   33.11  1,100.00  CHANNEL MAINTENANCE DREDGING

10006  10006   ORH   33.11  1,000.00  CHANNEL MAINTENANCE DREDGING

10009  10009   ORH   33.11   $165.00  RESTORE PROJ DEPTH LOCK APPROACH AND
                                       SHOALED AREAS
10012  10012   ORN   01.1   3,458.00  LOCK OPERATIONS

10015  10015   ORN   01.1    $500.00  LOCK OPERATIONS

10018  10018   ORH   01.1   6,225.00  BASIC OPER AND ORDINARY MAINT OF SIX
                                       NAV LOCK STRUCTURES
10021  10021   ORN   01.1    $316.00  LOCK OPERATIONS

10024  10024   ORN   22.1   2,224.00  LOCK ROUTINE MAINTENANCE

10027  10027   ORN   22.1    $220.00  LOCK ROUTINE MAINTENANCE

10030  10030   ORN   22.1    $324.00  LOCK ROUTINE MAINTENANCE

 Database: DSSABS  Table: workfunc Read     F4 to Edit              Browse
```

45 Table Oriented Newrank Form

The < ↑ > and < ↓ > keys will move the cursor within a column, and pressing
<F4> toggles between edit and browse mode. Consult the R:Base manual for more
details on using the R:Base browse mode and its menu.

```
┌─────────────────────────────────┐
│ Edit Newrank for Range          │
│ Edit Newrank (single)           │
│ $ by District Report            │
│ Set Newrank from Divrank        │
│ Clear Newrank for Range         │
│ Move Newrank to Divrank         │
│ Restore Divrank, Newrank        │
│ ─────────────────────────────── │
│ Assign/Edit Scores (Form)       │
│ Assign/Edit Scores (Browse)     │
│ List Scenario Scores            │
│ Generate WF Scores              │
│ Evaluate WF Scores              │
│ Re-Rank WorkFunctions           │
└─────────────────────────────────┘
```

Database: DSSABS

46   Reranking Pillar - Edit Newrank (Single) Item

Screen 46 highlights the Edit Newrank (single) menu item. Upon pressing
< Enter >, a prompt (Screen 47) will appear, asking the user to enter a Division rank.

Enter a Division Rank:

47   Edit Newrank (Single) Division Rank Prompt

Upon entry, the form, shown in Screen 48, appears at which time the user should either revise the Division rank in the green field and press <Enter> or simply press <Enter>. Upon revision of newrank, <Alt-A> and <Enter> should be pressed and a new Division rank can be entered in the green field for the next desired work function revision.

```
Add/discard  Go to  Exit
                        NewRank Modification Form

Desired DivRank: 10111  Newrank: 99999 Divrank: 10111  Last Max Newrank: 0

Dst  Div  Cls Wf_Num   CWIS      Yr  Rank DstRank    OCERank    Fund Level
CH3  ORD  MN  43        3040      94  0    10115      4210111         1

cofmarid:               orgcode:        category: N06 FCCD: 33.21 Funcid: 191

$: totcost: $60.00                      lowuse:         inspectd:
  contracts: $0.00                      typdreg:        constraint:
   dirlabor: $22.00
    contred: $0.00                      output measure: 0
    corpsed: $0.00                      user1:
    contrsa: $0.00                      user2:
    corpssa: $2.00
    totdreg: $0.00                      Bid:          Adv:          Lvl:
   contcontr: $0.00

  Description: SNAGGING
  Argument1:   REMOVAL OF MOST SEVERE HAZARDS TO MINIMIZE RISK TO LIFE AND
  Argument2:   PROPERTY

Form: newrankm  Table: workfunc        Field: vdivrank           Page: 1
```

48   Edit Newrank (Single) Form

CREATION OF FINAL DIVISION BUDGET

The first, second, and fourth items in the Reranking pillar, which were discussed in the previous section, are used as many times as needed to build the desired budget. Once the newrank field is set equal to divrank, the Division then begins the newrank editing procedure to develop desired funding level totals. These funding level totals are monitored throughout the editing procedure using the third item in the Reranking pillar, $ By District Report. Screen 49 shows a sample $ By District report.

C Appropriation   Max New Rank: 90105

range	ORH	ORL	ORN	ORP	(Total)
10000-19999	$45,829.00	$32,602.00	$41,204.00	$44,881.00	164,516.00
20000-27999	$3,449.00	$8,957.00	$7,175.00	$7,065.00	$26,646.00
28000-28999	$22,405.00	$8,876.00	$11,250.00	$16,252.00	$58,783.00
29000-29999	$3,308.00	$2,920.00	$1,909.00	$2,369.00	$10,506.00
30000-39999	$5,044.00	$10,379.00	$23,475.00	$17,405.00	$56,303.00
	$80,035.00	$63,734.00	$85,013.00	$87,972.00	316,754.00

---

49 $ By District Report

This report should be used each time a few newranks are edited, once the funding ceiling is close to being met for a given funding level. For example, if the user is editing newranks from 10000 - 19999, and the $ By District report shows that the total dollars are very close to the desired ceiling, each time the user edits a work function and sets the newrank to a rank within 10000 - 19999, he should rerun the $ by District report to make sure he has not exceeded the ceiling. Each of the other newrank ranges for a funding level should be treated in a similar fashion.

The Clear Newrank Range item within the Reranking pillar is used to set a range of newranks to a desired number, in the event several are in need of global change.

The Move Newrank to Divrank and Restore Divrank from Newrank items are not necessary, since the export will facilitate copying the newrank field into the divrank field when exporting work functions to the Division ABS.

Once the newrank ranges yield the desired total dollars and all reports have been run to assure the budget is complete, the data is ready to export back into the Division ABS software.

DIVISION DATA EXPORT

This facilitates work function transfer from the COMB_DSS-D to the Division ABS software. The inherent assumption here is that the work functions currently in the Division ABS software are backed up to another directory or storage media. Once this routine completes, all the divrank fields in the DIVRANK.DBF file will be forever changed to the newrank fields the user has defined in the COMB_DSS-D.

Screen 50 shows the Utilities pillar with the Export Data to DIVABS item displayed in bold face.

```
                                        ┌──────────────────────────────┐
                                        │ Quit                         │
                                        │ ───────────────────────────  │
                                        │ Initial Reports              │
                                        │ Quality Assurance            │
                                        │ ───────────────────────────  │
                                        │ Autogenerate Scenarios       │
                                        │ Re-Run Scenarios             │
                                        │ ───────────────────────────  │
                                        │ Check Database               │
                                        │ Backup Database              │
                                        │ Pack Database                │
                                        │ Rebuild Avail. Scen. Numbrs  │
                                        │ ───────────────────────────  │
                                        │ Browse Any Table             │
                                        │ View Any File on Disk        │
                                        │ ───────────────────────────  │
                                        │ Import Data From DIVABS       │
                                        │ Export Data To DIVABS         │
                                        └──────────────────────────────┘
```

Database: DSSABS

50   Utilities Pillar - Export to DIVABS Item

Once this item is selected, the screen in Screen 51 appears with a warning message asking the user to backup his files from the Division ABS before overwriting them.

```
    WARNING!!!!  This routine will erase existing data in DIVRANK,
in the Division ABS software.  You should backup your DIV ABS data
files before running this procedure.
```

```
          ┌─────────────────────────────────────────────┐
          │                                             │
          │  Create Temporary export Files?  Yes  No     │
          │                                             │
          └─────────────────────────────────────────────┘
```

51   Export Warning Dialog Box

If the Division ABS data files have been backed up, press <Enter> on **Yes** to continue. Once the **Yes** prompt is answered, COMB_DSS-D begins creating the temporary files needed to facilitate the export. Then all work functions in the WORKFUNC table are copied to a temporary .DBF file. This file will be used to allow the user a last chance to browse the work functions before they are sent to the Division ABS. Screen 52 shows the prompt asking if you want to browse the intermediate work function export table for a last time.

```
Browse tables?  Yes  No
```

52   Export Browse Dialog Box

Screen 53 protrays the browse screen for an intermediate export file. The u should verify that the divrank field in this database is now the newrank field from the WORKFUNC table.

```
    Sort  Edit  Calculate  Layout  Query  Manage  views  Print  Exit
    DIVRANK        | WF_NUM      | APPCODE | DISTRICT | DSTNAM | DIVNAM | CWIS          |

    99999               1   F        FH4       ORP      ORD        8205
      99999             2   F        FH2       ORL      ORD        8204
      99999             3   C        CH1       ORH      ORD        13170
      99999             4   F        FH1       ORH      ORD        8204
      99999             5   F        FH4       ORP      ORD        8204
      99999             6   F        FH3       ORN      ORD        8204
      99999             7   C        CH1       ORH      ORD        10222
      99999             8   F        FH3       ORN      ORD        8205
      99999             9   C        CH1       ORH      ORD        8720
      99999            10   C        CH3       ORN      ORD        18080

    Database: DSSABS  Table: IWORKFUN Read      F4 to Edit                  Browse
```

53   Export Browse

After browsing, the dialog box shown in Screen 54 appears, giving the user one last chance to avoid overwriting the Division ABS DIVRANK.DBF file.

```
    ┌──────────────────────────────────────┐
    │  Unload tables now to DIV ABS?  Yes  No  │
    └──────────────────────────────────────┘
```

54   Export Unload Data Dialog Box

Accepting **Yes** in this dialog box will then cause the IWORKFUN.DBF file (just browsed) to be mapped into the DIVRANK.DBF file in the Division ABS, thereby transferring the new ranks into the Division ABS. The Division ABS should be re-indexed after this operation, to rebuild the indices on the new DIVRANK.DBF file.

After the Division ABS has been re-indexed, the reports and other Division ABS facilities may be used as before. Once content with the data in the Division ABS, the data may then be uploaded to HQUSACE using the communication capabilities contained within the Division ABS.

APPENDIX B

LIST OF TABLES/COLUMNS/FORMS AND REPORTS

This appendix contains for sections. One contains a structure listing of all the tables used in the COMB_DSS-D system. The second section contains a list of all the columns within the COMB_DSS_D. The third section contains a listing of all the forms, and the fourth and final section contains the reports used within the COMB_DSS-D.

COMB_DSS-D TABLE STRUCTURES

Table: SYSINFO
Read Password: No
Modify Password: Yes

Column definitions
#	Name	Type		Index Expression
1	SYSSNAME	TEXT	8	
2	SYSCNAME	TEXT	8	
3	SYSDESCR	NOTE		
4	SYSINC	DOUBLE		
5	SYSFMT	NOTE		
6	SYSNEXT	NOTE		
7	SYSLONG	NOTE		

Current number of rows: 111

Table: SYSFORM
Read Password: No
Modify Password: No

Column definitions
#	Name	Type		Index Expression
1	SYSFNAME	TEXT	8	*
2	SYSFDATA	TEXT	46	
3	SYSFSEQ	INTEGER		*

Current number of rows: 2322

Table: SYSRULES
Read Password: No
Modify Password: Yes

Column definitions
#	Name	Type		Index Expression
1	SYSTABLE	TEXT	18	
2	SYSMSG	NOTE		
3	SYSEF	INTEGER		
4	SYSWHERE	NOTE		

Current number of rows: 17

Table: SYSREP
Read Password: No
Modify Password: No

Column definitions
#	Name	Type		Index Expression
1	SYSRNAME	TEXT	8	*
2	SYSRDATA	TEXT	80	
3	SYSRSEQ	INTEGER		*

Current number of rows: 3241

Table: distcode
Read Password: No
Modify Password: No

district code lookup

Column definitions
#	Name	Type		Index Expression
1	distcode	TEXT	1	
	district character code			
2	divnam	TEXT	3	
3	distlook	TEXT	5	(distcode& divnam)

Current number of rows: 12

Table: cwisscen
Read Password: No
Modify Password: No

cwis scenario inclusion/exclusion table

Column definitions
#	Name	Type		Index Expression
1	scenname	TEXT	8	
2	in_outcwis	TEXT	1	

```
3 cwis                    INTEGER

Current number of rows:        0
```

Table: fccdscen
Read Password: No
Modify Password: No

fccd scenario inclusion/exclusion table

Column definitions
```
# Name              Type        Index Expression
1 scenname          TEXT    8
2 in_outfc          TEXT    1
3 fccd              TEXT    5

Current number of rows:    128
```

Table: compscen
Read Password: No
Modify Password: No

composite scenario definition table

Column definitions
```
# Name              Type        Index Expression
1 scenname          TEXT    8 *
         composite scenario name
2 add_sub_scenario  TEXT    1
         add/subtract scenario code
3 scenpart          TEXT    8

Current number of rows:        8
```

Table: sqlscenario
Read Password: No
Modify Password: No

direct sql scenario definition

Column definitions
# Name	Type	Index Expression
1 scenname	TEXT	8
2 sql_text	NOTE	

where clause for sql

Current number of rows: 34

Table: div_s_$
Read Password: No
Modify Password: No

div scenario dollars breakout

Column definitions
# Name	Type	Index Expression
1 scenname	TEXT	8 *
2 appcode	TEXT	1
3 divnam	TEXT	3 *
4 dollars	CURRENCY	

Current number of rows: 0

Table: pcls_s_$
Read Password: No
Modify Password: No

Column definitions
# Name	Type	Index Expression
1 scenname	TEXT	8 *
2 appcode	TEXT	1
3 projcls	TEXT	2 *
4 dollars	CURRENCY	

Current number of rows: 1270

Table: divscen
Read Password: No
Modify Password: No

division scenario inclusion/exclusion table

Column definitions
#	Name	Type	Index	Expression
1	scenname	TEXT	8	
2	divnam	TEXT	3	

Current number of rows: 0

Table: classcen
Read Password: No
Modify Password: No

projcls scenario inclusion/exclusion table

Column definitions
#	Name	Type	Index	Expression
1	scenname	TEXT	8	
2	projcls	TEXT	2	

Current number of rows: 0

Table: status
Read Password: No
Modify Password: No

scenario storage status table

Column definitions
#	Name	Type	Index	Expression
1	usage	TEXT	8	
	temporary or wf_num			
2	scenname	TEXT	8	
3	stordate	DATE		
4	stortime	TIME		

Current number of rows: 3

Table: wf_value
Read Password: No
Modify Password: No

holds scores, new ranking for wf numbers

Column definitions
# Name	Type	Index Expression
1 wf_num	INTEGER	*
2 wf_value	INTEGER	
	returned value (score, rank)	

Current number of rows: 3611

Table: scendesc
Read Password: No
Modify Password: No

scenario description table

Column definitions
# Name	Type		Index Expression
1 scenname	TEXT	8	*
2 scentype	TEXT	1	
	composite or primary scenario		
3 scendesc	TEXT	60	
4 scennotes	NOTE		
5 scenworkfunctions	INTEGER		
6 scentotcost	CURRENCY		
7 scminoce	INTEGER		
	min oce rank in scenario		
8 scmaxoce	INTEGER		
	maximum oce rank in scenario		
9 scennum	INTEGER		
10 scenstor	INTEGER		
	scenario stored flag (1 = yes 0 no)		
11 sstordat	DATE		
	date scenario stored		
12 sstortim	TIME		
	scenario storage time		
13 scenscor	INTEGER		
	scenario score		

Current number of rows: 54

Table: tempname
Read Password: No
Modify Password: No

Column definitions
#	Name	Type		Index Expression
1	scenname	TEXT	8	

Current number of rows: 1

Table: district
Read Password: No
Modify Password: No

district code information

Column definitions
#	Name	Type		Index Expression
1	district	TEXT	3	*
2	dstnam	TEXT	3	
3	eroc	TEXT	2	
4	progtyp	TEXT	3	
5	divnam	TEXT	3	
6	distitle	TEXT	22	
7	divtitle	TEXT	35	

Current number of rows: 92

Table: projct
Read Password: No
Modify Password: No

project (cwis) related info (download)

Column definitions
```
 # Name              Type        Index Expression
 1 district          TEXT      3 *
 2 cwis              INTEGER     *
 3 projcls           TEXT      2 *
 4 projnam           TEXT     48
 5 state             TEXT      2
 6 feecode           TEXT      1
 7 tenyrave          DOUBLE
 8 surveys           INTEGER
 9 lowuse            TEXT      1
10 tonnage           DOUBLE
11 interest          TEXT      1
12 politician        TEXT     40
13 authproj          TEXT     63
14 authcwis          INTEGER
```

Current number of rows: 2423

Table: catfeat
Read Password: No
Modify Password: No

category fccd correspondence (download)

Column definitions
```
 # Name              Type        Index Expression
 1 category          TEXT      3
 2 fccd              TEXT      5
```

Current number of rows: 124

Table: cat_tit
Read Password: No
Modify Password: No

category titles (download)

Column definitions
# Name	Type	Index	Expression
1 category	TEXT	3	
2 cat_tit	TEXT	77	
3 descrip_req	TEXT	1	
4 argum_req	TEXT	1	
5 output_tit	TEXT	35	

Current number of rows: 184

Table: divscen2
Read Password: No
Modify Password: No

oce rank includes/excludes on scenario

Column definitions
# Name	Type	Index	Expression
1 scenname	TEXT	8	
2 in_outdiv	TEXT	1	
include/exclude code			
3 divrank	INTEGER		

Current number of rows: 0

Table: wf_num
Read Password: No
Modify Password: No

work function numbers

Column definitions
# Name	Type	Index	Expression
1 wf_num	INTEGER	*	

Current number of rows: 1228

Table: fccdprti
Read Password: No
Modify Password: No

feature cost code prefix titles

Column definitions
#	Name	Type	Index Expression
1	fccdprfx	INTEGER	
		feature cost code integer prefix	
2	fccdptit	TEXT 50	
		fccd prefix title	
3	fccdbrk	INTEGER	
		break field for report	

Current number of rows: 35

Table: brktitle
Read Password: No
Modify Password: No

Column definitions
#	Name	Type	Index Expression
1	fccdbrk	INTEGER	
2	BRKTITLE	TEXT 30	

Current number of rows: 6

Table: fccdxtb
Read Password: No
Modify Password: No

Column definitions
#	Name	Type	Index Expression
1	rlab	TEXT 18	
2	l	TEXT 1	
3	c1	CURRENCY	
4	c2	CURRENCY	
5	c3	CURRENCY	
6	c4	CURRENCY	
7	c5	CURRENCY	
8	ctot	CURRENCY	

Current number of rows: 127

Table: fcprxtb
Read Password: No
Modify Password: No

Column definitions
#	Name	Type		Index Expression
1	rlab	TEXT	18	
2	a1	CURRENCY		
3	a2	CURRENCY		
4	a3	CURRENCY		

Current number of rows: 32

Table: divxprn
Read Password: No
Modify Password: No

Column definitions
#	Name	Type		Index Expression
1	rlab	TEXT	18	
2	a1	CURRENCY		
3	a2	CURRENCY		
4	a3	CURRENCY		
5	a4	CURRENCY		
6	a5	CURRENCY		
7	a6	CURRENCY		
8	a7	CURRENCY		

Current number of rows: 4

Table: pclsxprn
Read Password: No
Modify Password: No

Column definitions
#	Name	Type		Index Expression
1	rlab	TEXT	18	
2	a1	CURRENCY		
3	a2	CURRENCY		
4	a3	CURRENCY		
5	a4	CURRENCY		
6	a5	CURRENCY		
7	a6	CURRENCY		
8	a7	CURRENCY		

Current number of rows: 7

B-13

Table: fcprxprn
Read Password: No
Modify Password: No

Column definitions

# Name	Type	Index Expression
1 rlab	TEXT 18	
2 a1	CURRENCY	
3 a2	CURRENCY	
4 a3	CURRENCY	
5 a4	CURRENCY	
6 a5	CURRENCY	
7 a6	CURRENCY	
8 a7	CURRENCY	

Current number of rows: 26

Table: fccdxprn
Read Password: No
Modify Password: No

Column definitions

# Name	Type	Index Expression
1 rlab	TEXT 18	
2 a1	CURRENCY	
3 a2 .	CURRENCY	
4 a3	CURRENCY	
5 a4	CURRENCY	
6 a5	CURRENCY	
7 a6	CURRENCY	
8 a7	CURRENCY	

Current number of rows: 58

Table: dfprxprn
Read Password: No
Modify Password: No

Column definitions

# Name	Type	Index Expression
1 rlab	TEXT 18	
2 a1	CURRENCY	
3 a2	CURRENCY	
4 a3	CURRENCY	
5 a4	CURRENCY	
6 a5	CURRENCY	
7 a6	CURRENCY	
8 a7	CURRENCY	

Current number of rows: 24

Table: clsbtitl
Read Password: No
Modify Password: No

Column definitions
#	Name	Type		Index Expression
1	classbrk	INTEGER		
2	clsbtitl	TEXT	50	

Current number of rows: 10

Table: majclsbk
Read Password: No
Modify Password: No

major class breakout report driving table

Column definitions
#	Name	Type	Index Expression
1	classnum	INTEGER	
2	a1	CURRENCY	
3	a2	CURRENCY	
4	a3	CURRENCY	
5	a4	CURRENCY	
6	a5	CURRENCY	
7	a6	CURRENCY	
8	a7	CURRENCY	

Current number of rows: 6

Table: duml
Read Password: No
Modify Password: No

Column definitions
#	Name	Type		Index Expression
1	duml	TEXT	4	

Current number of rows: 5

Table: fccd_s_$
Read Password: No
Modify Password: No

fccd scenario dollars

Column definitions
#	Name	Type		Index	Expression
1	scenname	TEXT	8	*	
2	appcode	TEXT	1		
3	fccd	TEXT	5	*	
4	dollars	CURRENCY			
5	fccdprefix	INTEGER			((aint(float(fccd))))

Current number of rows: 3837

Table: fccddiv_s_$
Read Password: No
Modify Password: No

fccd division name rollup

Column definitions
#	Name	Type		Index	Expression
1	scenname	TEXT	8		
2	appcode	TEXT	1		
3	divnam	TEXT	3		
4	fccd	TEXT	5		
5	dollars	CURRENCY			
6	fccdprefix	INTEGER			((aint(float(fccd))))

Current number of rows: 0

Table: alphac
Read Password: No
Modify Password: No

Column definitions
#	Name	Type		Index	Expression
1	position	TEXT	4		
2	scenario	TEXT	8		
3	colord	TEXT	2		

Current number of rows: 7

Table: divxpr2
Read Password: No
Modify Password: No

Column definitions
#	Name	Type		Index Expression
1	rlab	TEXT	18	
2	a4	CURRENCY		
3	a1	CURRENCY		
4	a2	CURRENCY		
5	a3	CURRENCY		
6	a6	CURRENCY		
7	a7	CURRENCY		
8	a5	CURRENCY		

Current number of rows: 12

Table: scentitle
Read Password: No
Modify Password: No

descriptive titles for scenarios, for reports

Column definitions
#	Name	Type		Index Expression
1	scenname	TEXT	8	
2	target_$	CURRENCY		
	target dollars for scenario			
3	title1	TEXT	10	
	1st line of column header			
4	title2	TEXT	10	
	2nd line of column header			
5	title3	TEXT	10	
	3rd line of column header			

Current number of rows: 72

Table: SYSVIEWS
Read Password: No
Modify Password: Yes

Column definitions
#	Name	Type		Index Expression
1	SYSVNAME	TEXT	8	*
2	SYSVCOLS	NOTE		
3	SYSVTEXT	NOTE		

Current number of rows: 7

Table: environm
Read Password: No
Modify Password: No

Column definitions

#	Name	Type		Index Expression
1	APPCODE	TEXT	1	
2	DISTRICT	TEXT	3	
3	DSTNAM	TEXT	3	
4	CWIS	INTEGER		
5	CATCLASS	INTEGER		
6	PROJNAM	TEXT	48	
7	STATE	TEXT	2	
8	TOTCOST	CURRENCY		
9	USER1	INTEGER		
10	DESCRIP	TEXT	56	

Current number of rows: 21

Table: wetlands
Read Password: No
Modify Password: No

Column definitions

#	Name	Type		Index Expression
1	DISTRICT	TEXT	3	
2	DSTNAM	TEXT	3	
3	CWIS	INTEGER		
4	YEAR	TEXT	2	
5	FUNCID	INTEGER		
6	WETCAT	INTEGER		
7	PROJNAM	TEXT	48	
8	USER1	INTEGER		

Current number of rows: 74

Table: temp2$$$
Read Password: No
Modify Password: No

Column definitions

#	Name	Type		Index Expression
1	scenname	TEXT	8	
2	divnam	TEXT	3	
3	fccd	TEXT	5	
4	listpos	INTEGER		
5	sumdol	CURRENCY		

Current number of rows: 0

Table: check1
Read Password: No
Modify Password: No

Column definitions
# Name	Type	Index Expression
1 wf_num	INTEGER	

Current number of rows: 0

Table: dstscen
Read Password: No
Modify Password: No

Column definitions
# Name	Type		Index Expression
1 scenname	TEXT	8	
2 dstnam	TEXT	3	

Current number of rows: 17

Table: tempscen
Read Password: No
Modify Password: No

table to hold current scenario wf info

Column definitions
# Name	Type		Index Expression
1 district	TEXT	3	
2 dstnam	TEXT	3	*
3 cwis	INTEGER		
4 funcid	INTEGER		
5 ocerank	INTEGER		
6 divnam	TEXT	3	
7 divrank	INTEGER		
8 projcls	TEXT	2	*
9 fccd	TEXT	5	*
10 totcost	CURRENCY		
11 cumcost	CURRENCY		
12 wf_num	INTEGER		*
13 appcode	TEXT	1	

Current number of rows: 13

Table: fccddst_s_$
Read Password: No
Modify Password: No

Column definitions
#	Name	Type		Index	Expression
1	scenname	TEXT	8	*	
2	appcode	TEXT	1		
3	dstnam	TEXT	3	*	
4	fccd	TEXT	5	*	
5	dollars	CURRENCY			
6	fccdprefix	INTEGER			((aint(float(fccd))))

Current number of rows: 2927

Table: dst_s_$
Read Password: No
Modify Password: No

Column definitions
#	Name	Type		Index	Expression
1	scenname	TEXT	8	*	
2	appcode	TEXT	1		
3	dstnam	TEXT	3	*	
4	dollars	CURRENCY			

Current number of rows: 120

Table: pclsdst_s_$
Read Password: No
Modify Password: No

project class by district

Column definitions
#	Name	Type		Index	Expression
1	scenname	TEXT	8	*	
2	appcode	TEXT	1		
3	projcls	TEXT	2	*	
4	dstnam	TEXT	3	*	
5	dollars	CURRENCY			

Current number of rows: 545

Table: primscen
Read Password: No
Modify Password: No

master scenario table

Column definitions
#	Name	Type	Index	Expression
1	scenname	TEXT	8	
		composite scenario name		
2	scenappcode	TEXT	1	
		scenario appropriation code		
3	scenmindiv	INTEGER		
		minimum division rank		
4	scenmaxdiv	INTEGER		
		maximum division rank		
5	scenmincost	CURRENCY		
6	scencumcost	CURRENCY		
7	scenminmeasure	INTEGER		
		minimum output measure		
8	scenmaxmeasure	INTEGER		
		maximum output measure		
9	scenlunp	TEXT	1	
		low use navigation flag		
10	scensort	TEXT	1	
		scenario sort order on ocerank		
11	scmnusr1	INTEGER		
		scenario min value user1		
12	scmxusr1	INTEGER		
		scenario maximum value user1		
13	scmnusr2	INTEGER		
		scenario minimum value user2		
14	scmxusr2	INTEGER		
		scenario maximum value user2		

Current number of rows: 19

Table: tempfunc
Read Password: No
Modify Password: No

Column definitions
#	Name	Type	Index	Expression
1	district	TEXT	3	
2	appcode	TEXT	1	
3	wf_num	INTEGER		Autonumbering
4	cwis	INTEGER		
5	projcls	TEXT	2	
6	divnam	TEXT	3	
7	year	TEXT	2	
8	funcid	INTEGER		
9	rank	INTEGER		
10	cofmarid	INTEGER		
11	orgcode	TEXT	4	

```
12 dstrank          INTEGER
13 divrank          INTEGER
14 ocerank          INTEGER
15 fundlev          TEXT     1
16 category         TEXT     3
17 fccd             TEXT     5
18 totcost          CURRENCY
19 contracts        CURRENCY
20 dirlabor         CURRENCY
21 other            CURRENCY
22 contred          CURRENCY
23 corpsed          CURRENCY
24 contrsa          CURRENCY
25 corpssa          CURRENCY
26 totdreg          CURRENCY
27 typdreg          TEXT     2
28 inspectcd        TEXT     7
29 descrip          TEXT    56
30 argum1           TEXT    64
31 argum2           TEXT    64
32 contcontr        CURRENCY
33 constraint       TEXT     1
34 output_measure   INTEGER
35 biddate          DATE
36 advdate          DATE
37 lowuse           TEXT     1
38 newrank          INTEGER
39 user1            INTEGER
40 user2            INTEGER
41 level            INTEGER

   Current number of rows:      20
```

Table: holdfunc
Read Password: No
Modify Password: No

Column definitions
```
# Name               Type        Index Expression
1 district          TEXT     3
2 appcode           TEXT     1
3 dstnam            TEXT     3
4 wf_num            INTEGER
5 old_wf_num        INTEGER
6 cwis              INTEGER
7 projcls           TEXT     2
8 divnam            TEXT     3
9 year              TEXT     2
10 funcid           INTEGER
11 rank             INTEGER
12 cofmarid         INTEGER
13 orgcode          TEXT     4
14 dstrank          INTEGER
15 divrank          INTEGER
```

```
16 ocerank              INTEGER
17 fundlev              TEXT      1
18 category             TEXT      3
19 fccd                 TEXT      5
20 totcost              CURRENCY
21 contracts            CURRENCY
22 dirlabor             CURRENCY
23 other                CURRENCY
24 contred              CURRENCY
25 corpsed              CURRENCY
26 contrsa              CURRENCY
27 corpssa              CURRENCY
28 totdreg              CURRENCY
29 typdreg              TEXT      2
30 inspectcd            TEXT      7
31 descrip              TEXT     56
32 argum1               TEXT     64
33 argum2               TEXT     64
34 keycodes             TEXT     30
              The keycode field
35 contcontr            CURRENCY
36 constraint           TEXT      1
37 output_measure       INTEGER
38 biddate              DATE
39 advdate              DATE
40 lowuse               TEXT      1
41 newrank              INTEGER
42 user1                INTEGER
43 user2                INTEGER
44 level                INTEGER
45 revcost              CURRENCY

Current number of rows:        0
```

Table: dstscen2
Read Password: No
Modify Password: No

```
Column definitions
# Name                 Type        Index Expression
1 scenname             TEXT      8
2 in_outoce            TEXT      1
3 ocerank              INTEGER

Current number of rows:        0
```

Table: feat_tit
Read Password: No
Modify Password: No

fccd titles (download)

Column definitions
# Name	Type	Index	Expression
1 fccd	TEXT	5 *	
2 feat_tit	TEXT	56	
3 fccdtit	TEXT	63	(fccd& feat_tit)
4 active	TEXT	1	

Active FCCD = 'Y'

Current number of rows: 285

Table: tempdist
Read Password: No
Modify Password: No

Column definitions
# Name	Type	Index	Expression
1 district	TEXT	3 *	

Current number of rows: 8

Table: class
Read Password: No
Modify Password: No

Column definitions
# Name	Type	Index	Expression
1 projcls	TEXT	2 *	
2 CATCLASS	INTEGER		
3 classnum	INTEGER		
4 classbrk	INTEGER		
5 majclass	TEXT	50	
6 classlook	TEXT	50	
7 clstitle	TEXT	54	(projcls& classlook)

Current number of rows: 59

Table: availnum
Read Password: No
Modify Password: No

Column definitions
#	Name	Type	Index Expression
1	avail	INTEGER	

Current number of rows: 460

Table: divxtab
Read Password: No
Modify Password: No

Column definitions
#	Name	Type		Index Expression
1	rlab	TEXT	18	
2	a1	CURRENCY		
3	a2	CURRENCY		
4	a3	CURRENCY		

Current number of rows: 4

Table: pclsxtab
Read Password: No
Modify Password: No

Column definitions
#	Name	Type		Index Expression
1	rlab	TEXT	18	
2	a1	CURRENCY		
3	a2	CURRENCY		
4	a3	CURRENCY		

Current number of rows: 7

Table: fcprxtab
Read Password: No
Modify Password: No

Column definitions
#	Name	Type		Index Expression
1	rlab	TEXT	18	
2	a1	CURRENCY		
3	a2	CURRENCY		
4	a3	CURRENCY		

Current number of rows: 26

Table: temp3$$$
Read Password: No
Modify Password: No

Column definitions
#	Name	Type		Index Expression
1	dstnam	TEXT	3	
2	prefix	INTEGER		
3	s1$	CURRENCY		
4	s2$	CURRENCY		
5	s3$	CURRENCY		
6	s4$	CURRENCY		
7	s5$	CURRENCY		
8	s6$	CURRENCY		
9	s7$	CURRENCY		

Current number of rows: 85

Table: listpos
Read Password: No
Modify Password: No

Column definitions
#	Name	Type		Index Expression
1	scenname	TEXT	8	
2	listpos	INTEGER		

Current number of rows: 3

Table: temp4$$$
Read Password: No
Modify Password: No

Column definitions
#	Name	Type		Index Expression
1	dstnam	TEXT	3	
2	fccd	TEXT	5	
3	s1$	CURRENCY		
4	s2$	CURRENCY		
5	s3$	CURRENCY		
6	s4$	CURRENCY		
7	s5$	CURRENCY		
8	s6$	CURRENCY		
9	s7$	CURRENCY		

Current number of rows: 196

Table: workfunc
Read Password: No
Modify Password: No

Work Function data for FY92

Column definitions
#	Name	Type		Index Expression
1	district	TEXT	3	
2	appcode	TEXT	1	
	appropriation code			
3	dstnam	TEXT	3	*
4	wf_num	INTEGER		*
	new wf_num for ord			
5	old_wf_num	INTEGER		
6	cwis	INTEGER		
7	projcls	TEXT	2	
8	divnam	TEXT	3	
9	year	TEXT	2	
10	funcid	INTEGER		
11	rank	INTEGER		
12	cofmarid	INTEGER		
13	orgcode	TEXT	4	
14	dstrank	INTEGER		
15	divrank	INTEGER		*
16	ocerank	INTEGER		
17	fundlev	TEXT	1	
18	category	TEXT	3	
19	fccd	TEXT	5	
20	totcost	CURRENCY		
21	contracts	CURRENCY		
22	dirlabor	CURRENCY		
23	other	CURRENCY		
	other costs			
24	contred	CURRENCY		
25	corpsed	CURRENCY		
26	contrsa	CURRENCY		
27	corpssa	CURRENCY		
28	totdreg	CURRENCY		
29	typdreg	TEXT	2	
30	inspectcd	TEXT	7	
31	descrip	TEXT	56	
32	argum1	TEXT	64	
33	argum2	TEXT	64	
34	keycodes	TEXT	30	
	Contains keyfields for special rpts			
35	contcontr	CURRENCY		
36	constraint	TEXT	1	
37	output_measure	INTEGER		
38	biddate	DATE		
39	advdate	DATE		
40	lowuse	TEXT	1	
41	newrank	INTEGER		*
	generated ranking			
42	user1	INTEGER		
	user_defined #1			

```
43 user2                  INTEGER
             user_defined #2
44 level                  INTEGER
             assigned rank level
45 revcost                CURRENCY

Current number of rows:    3788
```

Table: qc1
Read Password: No
Modify Password: No

```
Column definitions
# Name                 Type        Index Expression
1 wf_num               INTEGER     *
2 divrank              INTEGER
3 TOTCOST              CURRENCY
4 newrank              INTEGER

Current number of rows:    3788
```

Table: nrtotal
Read Password: No
Modify Password: No

rollup totals for ranking by type, rank range

```
Column definitions
# Name                 Type        Index Expression
1 dstnam               TEXT     3
2 fccdgrp              TEXT     4
             fccd group (OPER, MAIN)
3 TOTCOST              CURRENCY
4 range                TEXT     11

Current number of rows:       38
```

Table: rankdflt
Read Password: No
Modify Password: No

set values for default ranks by district

Column definitions
#	Name	Type		Index Expression
1	dstnam	TEXT	3	
2	appcode	TEXT	1	
3	fccdgrp	TEXT	4	
4	maxrank	INTEGER		

Current number of rows: 12

Table: unrank
Read Password: No
Modify Password: No

Column definitions
#	Name	Type	Index Expression
1	divrank	INTEGER	
2	newrank	INTEGER	
3	nrhold	INTEGER	
4	user2	INTEGER	

Current number of rows: 1

Table: fccdxtab
Read Password: No
Modify Password: No

Column definitions
#	Name	Type		Index Expression
1	rlab	TEXT	18	
2	a1	CURRENCY		
3	a2	CURRENCY		
4	a3	CURRENCY		
5	a4	CURRENCY		
6	a5	CURRENCY		

Current number of rows: 58

Table: divrank
Read Password: No
Modify Password: No

Column definitions

#	Name	Type		Index Expression
1	DIVRANK	INTEGER		
2	OLDRANK	INTEGER		
3	DISTRICT	TEXT	3	
4	DSTNAM	TEXT	3	
5	PROGTYP	TEXT	3	
6	CWIS	INTEGER		
7	YEAR	TEXT	2	
8	FUNCID	INTEGER		
9	DSTRANK	INTEGER		
10	OCERANK	INTEGER		
11	RANK	INTEGER		
12	FUNDLEV	TEXT	1	
13	CATEGORY	TEXT	3	
14	FCCD	TEXT	5	
15	TYPDREG	TEXT	2	
16	TOTCOST	CURRENCY		
17	contracts	CURRENCY		
18	DIRLABOR	CURRENCY		
19	OTHER	CURRENCY		
20	ADVDATE	DATE		
21	BIDDATE	DATE		
22	TOTDREG	CURRENCY		
23	contcontr	CURRENCY		
24	OUTPUTM	INTEGER		
25	inspectcd	TEXT	7	
26	REACH	INTEGER		
27	REASON	INTEGER		
28	DESCRIP	TEXT	56	
29	ARGUM1	TEXT	64	
30	ARGUM2	TEXT	64	
31	PCUM	DOUBLE		
32	LCUM	DOUBLE		
33	DCUM	DOUBLE		
34	UPLOAD	TEXT	1	
35	UPRANK	TEXT	1	
36	PROJCLS	TEXT	2	
37	PROJNAM	TEXT	48	
38	STATE	TEXT	2	
39	CNED	DOUBLE		
40	CSED	DOUBLE		
41	CNSA	DOUBLE		
42	CSSA	DOUBLE		
43	ADDREC	TEXT	1	
44	DISTCUM	DOUBLE		
45	TOTCUM	DOUBLE		

Current number of rows: DBF

COMB_DSS-D COLUMN LISTING

Column definitions

Name	Type	Table	Index Expression
a1	CURRENCY	pclsxprn	
		divxtab	
		fccdxtab	
		fccdxprn	
		fcprxprn	
		pclsxtab	
		divxpr2	
		divxprn	
		fcprxtb	
		fcprxtab	
		dfprxprn	
		majclsbk	
a2	CURRENCY	divxtab	
		fccdxprn	
		pclsxtab	
		fccdxtab	
		dfprxprn	
		fcprxtb	
		fcprxtab	
		divxpr2	
		fcprxprn	
		pclsxprn	
		majclsbk	
		divxprn	
a3	CURRENCY	pclsxtab	
		dfprxprn	
		pclsxprn	
		majclsbk	
		fccdxprn	
		fcprxprn	
		divxtab	
		fcprxtb	
		divxprn	
		divxpr2	
		fccdxtab	
		fcprxtab	
a4	CURRENCY	fcprxprn	
		divxpr2	
		fccdxprn	
		dfprxprn	
		pclsxprn	
		fccdxtab	
		majclsbk	
		divxprn	

Column definitions

Name	Type		Table	Index Expression
a5	CURRENCY		dfprxprn	
			divxpr2	
			fcprxprn	
			majclsbk	
			divxprn	
			pclsxprn	
			fccdxprn	
			fccdxtab	
a6	CURRENCY		divxpr2	
			divxprn	
			fcprxprn	
			majclsbk	
			dfprxprn	
			fccdxprn	
			pclsxprn	
a7	CURRENCY		divxpr2	
			dfprxprn	
			fcprxprn	
			majclsbk	
			divxprn	
			pclsxprn	
			fccdxprn	
active	TEXT	1	feat_tit	
	Active FCCD = 'Y'			
ADDREC	TEXT	1	divrank	
add_sub_scenario	TEXT	1	compscen	
	add/subtract scenario code			
ADVDATE	DATE		divrank	
advdate	DATE		workfunc	
			tempfunc	
			holdfunc	
appcode	TEXT	1	fccddiv_s_$	
			pcls_s_$	
			dst_s_$	
			holdfunc	
			tempfunc	
			workfunc	
	appropriation code			
			fccd_s_$	
			tempscen	
			div_s_$	
			fccddst_s_$	
			environm	
			pclsdst_s_$	
			rankdflt	
argum1	TEXT	64	workfunc	

Column definitions

Name	Type		Table	Index Expression
argum1	TEXT	64	tempfunc	
			divrank	
			holdfunc	
argum2	TEXT	64	holdfunc	
			divrank	
			workfunc	
			tempfunc	
argum_req	TEXT	1	cat_tit	
authcwis	INTEGER		projct	
authproj	TEXT	63	projct	
avail	INTEGER		availnum	
biddate	DATE		workfunc	
			tempfunc	
			holdfunc	
			divrank	
BRKTITLE	TEXT	30	brktitle	
c1	CURRENCY		fccdxtb	
c2	CURRENCY		fccdxtb	
c3	CURRENCY		fccdxtb	
c4	CURRENCY		fccdxtb	
c5	CURRENCY		fccdxtb	
CATCLASS	INTEGER		environm	
			class	
category	TEXT	3	catfeat	
			holdfunc	
			cat_tit	
			divrank	
			workfunc	
			tempfunc	
cat_tit	TEXT	77	cat_tit	
classbrk	INTEGER		clsbtitl	
			class	
classlook	TEXT	50	class	
classnum	INTEGER		majclsbk	
			class	
clsbtitl	TEXT	50	clsbtitl	
clstitle	TEXT	54	class	(projcls&
classlook)				
CNED	DOUBLE		divrank	
CNSA	DOUBLE		divrank	
cofmarid	INTEGER		tempfunc	
			workfunc	
			holdfunc	
colord	TEXT	2	alphac	
constraint	TEXT	1	tempfunc	
			holdfunc	
			workfunc	

Column definitions

Name	Type		Table	Index Expression
contcontr	CURRENCY		holdfunc	
			tempfunc	
			workfunc	
			divrank	
contracts	CURRENCY		divrank	
			holdfunc	
			workfunc	
			tempfunc	
contred	CURRENCY		tempfunc	
			holdfunc	
			workfunc	
contrsa	CURRENCY		holdfunc	
			workfunc	
			tempfunc	
corpsed	CURRENCY		holdfunc	
			tempfunc	
			workfunc	
corpssa	CURRENCY		workfunc	
			holdfunc	
			tempfunc	
CSED	DOUBLE		divrank	
CSSA	DOUBLE		divrank	
ctot	CURRENCY		fccdxtb	
cumcost	CURRENCY		tempscen	
CWIS	INTEGER		divrank	
			holdfunc	
cwis	INTEGER		workfunc	
			tempscen	
			wetlands	
			tempfunc	
			cwisscen	
			environm	
			projct	*
DCUM	DOUBLE		divrank	
descrip	TEXT	56	tempfunc	
			divrank	
			holdfunc	
			environm	
			workfunc	
descrip_req	TEXT	1	cat_tit	
dirlabor	CURRENCY		workfunc	
			divrank	
			tempfunc	
			holdfunc	

Column definitions

Name	Type		Table	Index Expression
distcode	TEXT	1	distcode	
			district character code	
DISTCUM	DOUBLE		divrank	
distitle	TEXT	22	district	
distlook	TEXT	5	distcode	(distcode&
divnam)				
DISTRICT	TEXT	3	wetlands	
			district	*
			tempscen	
			projct	*
			workfunc	
			environm	
			tempfunc	
			divrank	
			holdfunc	
			tempdist	*
divnam	TEXT	3	temp2$$$	
			tempscen	
			tempfunc	
divnam	TEXT	3	holdfunc	
			divscen	
			fccddiv_s_$	
			district	
			workfunc	
			div_s_$	*
			distcode	
divrank	INTEGER		qc1	
			tempscen	
			tempfunc	
			divscen2	
			unrank	
			holdfunc	
			workfunc	*
			divrank	
divtitle	TEXT	35	district	
dollars	CURRENCY		pcls_s_$	
			fccddiv_s_$	
dollars	CURRENCY		fccd_s_$	
			dst_s_$	
			fccddst_s_$	
			div_s_$	
			pclsdst_s_$	

Column definitions

Name	Type	Table	Index Expression
dstnam	TEXT	3 nrtotal	
		holdfunc	
		district	
		temp3$$$	
		workfunc	*
		temp4$$$	
		dst_s_$	*
		rankdflt	
		pclsdst_s_$	*
		fccddst_s_$	*
		tempscen	*
		divrank	
		environm	
dstnam	TEXT	3 dstscen	
		wetlands	
dstrank	INTEGER	holdfunc	
		divrank	
		workfunc	
		tempfunc	
dum1	TEXT	4 dum1	
eroc	TEXT	2 district	
fccd	TEXT	5 temp4$$$	
		fccd_s_$	*
		fccdscen	
		holdfunc	
		fccddst_s_$	*
		workfunc	
		feat_tit	*
		fccddiv_s_$	
		tempfunc	
		tempscen	*
fccd	TEXT	5 catfeat	
		divrank	
		temp2$$$	
fccdbrk	INTEGER	fccdprti	
	break field for report		
		brktitle	
fccdgrp	TEXT	4 rankdflt	
		nrtotal	
	fccd group (OPER, MAIN)		
fccdprefix	INTEGER	fccddiv_s_$	
((aint(float(fccd)))			
			)
		fccd_s_$	
((aint(float(fccd)))			
			)
		fccddst_s_$	
((aint(float(fccd)))			
			)

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Column definitions

Name	Type		Table	Index Expression
fccdprfx	INTEGER		fccdprti	
feature cost code integer prefix				
fccdptit	TEXT	50	fccdprti	
fccd prefix title				
fccdtit	TEXT	63	feat_tit	(fccd&
feat_tit)				
feat_tit	TEXT	56	feat_tit	
feecode	TEXT	1	projct	
funcid	INTEGER		holdfunc	
			tempfunc	
			workfunc	
			divrank	
			wetlands	
			tempscen	
FUNDLEV	TEXT	1	divrank	
			holdfunc	
			workfunc	
			tempfunc	
inspectcd	TEXT	7	holdfunc	
			divrank	
			workfunc	
			tempfunc	
interest	TEXT	1	projct	
in_outcwis	TEXT	1	cwisscen	
in_outdiv	TEXT	1	divscen2	
include/exclude code				
in_outfc	TEXT	1	fccdscen	
in_outce	TEXT	1	dstscen2	
keycodes	TEXT	30	workfunc	
Contains keyfields for special rpts				
			holdfunc	
The keycode field				
l	TEXT	1	fccdxtb	
LCUM	DOUBLE		divrank	
level	INTEGER		workfunc	
assigned rank level				
			tempfunc	
			holdfunc	
listpos	INTEGER		listpos	
			temp2$$$	
lowuse	TEXT	1	projct	
lowuse	TEXT	1	tempfunc	
			workfunc	
			holdfunc	
majclass	TEXT	50	class	
maxrank	INTEGER		rankdflt	

Column definitions

Name	Type	Table	Index Expression
newrank	INTEGER	qc1	
		holdfunc	
		workfunc	*
	generated ranking		
		tempfunc	
		unrank	
nrhold	INTEGER	unrank	
ocerank	INTEGER	tempfunc	
		dstscen2	
		divrank	
		holdfunc	
		workfunc	
		tempscen	
OLDRANK	INTEGER	divrank	
old_wf_num	INTEGER	workfunc	
		holdfunc	
orgcode	TEXT 4	tempfunc	
		holdfunc	
		workfunc	
OTHER	CURRENCY	divrank	
		tempfunc	
		holdfunc	
		workfunc	
	other costs		
OUTPUTM	INTEGER	divrank	
output_measure	INTEGER	holdfunc	
		tempfunc	
		workfunc	
output_tit	TEXT 35	cat_tit	
PCUM	DOUBLE	divrank	
politician	TEXT 40	projct	
position	TEXT 4	alphac	
prefix	INTEGER	temp3$$$	
PROGTYP	TEXT 3	divrank	
		district	
projcls	TEXT 2	holdfunc	
		tempscen	*
		classcen	
		class	*
		pcls_s_$	*
		pclsdst_s_$	*
		divrank	
		tempfunc	
		workfunc	
		projct	*
PROJNAM	TEXT 48	divrank	
		wetlands	
		projct	
		environm	

Column definitions

Name	Type		Table	Index Expression
range	TEXT	11	nrtotal	
RANK	INTEGER		divrank	
			workfunc	
			tempfunc	
			holdfunc	
REACH	INTEGER		divrank	
REASON	INTEGER		divrank	
revcost	CURRENCY		holdfunc	
			workfunc	
rlab	TEXT	18	fccdxprn	
			fcprxtb	
			fccdxtab	
			dfprxprn	
			divxpr2	
			pclsxprn	
			pclsxtab	
			divxtab	
			·fcprxprn	
rlab	TEXT	18	fccdxtb	
			divxprn	
			fcprxtab	
s1$	CURRENCY		temp4$$$	
			temp3$$$	
s2$	CURRENCY		temp3$$$	
			temp4$$$	
s3$	CURRENCY		temp3$$$	
			temp4$$$	
s4$	CURRENCY		temp4$$$	
			temp3$$$	
s5$	CURRENCY		temp3$$$	
			temp4$$$	
s6$	CURRENCY		temp3$$$	
			temp4$$$	
s7$	CURRENCY		temp3$$$	
			temp4$$$	
scenappcode	TEXT	1	primscen	
scenario appropriation code				
scenario	TEXT	8	alphac	
scencumcost	CURRENCY		primscen	
scendesc	TEXT	60	scendesc	
scenlunp	TEXT	1	primscen	
low use navigation flag				
scenmaxdiv	INTEGER		primscen	
maximum division rank				
scenmaxmeasure	INTEGER		primscen	
maximum output measure				
scenmincost	CURRENCY		primscen	
scenmindiv	INTEGER		primscen	
minimum division rank				
scenminmeasure	INTEGER		primscen	
minimum output measure				

Column definitions

Name	Type	Table	Index Expression
scenname	TEXT	8 status	
		compscen	*
		composite scenario name	
		divscen2	
scenname	TEXT	8 dstscen2	
		primscen	
		composite scenario name	
		divscen	
		dstscen	
		sqlscenario	
		pclsdst_s_$	*
		div_s_$	*
		fccddiv_s_$	
		dst_s_$	*
		classcen	
		scentitle	
		cwisscen	
		fccddst_s_$	*
		temp2$$$	
		fccd_s_$	*
		pcls_s_$	*
		scendesc	*
scenname	TEXT	8 tempname	
		listpos	
		fccdscen	
scennotes	NOTE	scendesc	
scennum	INTEGER	scendesc	
scenpart	TEXT	8 compscen	
scenscor	INTEGER	scendesc	
	scenario score		
scensort	TEXT	1 primscen	
	scenario sort order on ocerank		
scenstor	INTEGER	scendesc	
	scenario stored flag (1 = yes 0 no)		
scentotcost	CURRENCY	scendesc	
scentype	TEXT	1 scendesc	
	composite or primary scenario		
scenworkfunctions	INTEGER	scendesc	
scmaxoce	INTEGER	scendesc	
	maximum oce rank in scenario		
scminoce	INTEGER	scendesc	
	min oce rank in scenario		
scmnusr1	INTEGER	primscen	
	scenario min value user1		
scmnusr2	INTEGER	primscen	
	scenario minimum value user2		
scmxusr1	INTEGER	primscen	
	scenario maximum value user1		
scmxusr2	INTEGER	primscen	
	scenario maximum value user2		

Column definitions

Name	Type		Table	Index Expression
sql_text	NOTE		sqlscenario	
where clause for sql				
sstordat	DATE		scendesc	
date scenario stored				
sstortim	TIME		scendesc	
scenario storage time				
STATE	TEXT	2	environm	
			projct	
STATE	TEXT	2	divrank	
stordate	DATE		status	
stortime	TIME		status	
sumdol	CURRENCY		temp2$$$	
surveys	INTEGER		projct	
SYSCNAME	TEXT	8	SYSINFO	
SYSDESCR	NOTE		SYSINFO	
SYSEF	INTEGER		SYSRULES	
SYSFDATA	TEXT	46	SYSFORM	
SYSFMT	NOTE		SYSINFO	
SYSFNAME	TEXT	8	SYSFORM	*
SYSFSEQ	INTEGER		SYSFORM	*
SYSINC	DOUBLE		SYSINFO	
SYSLONG	NOTE		SYSINFO	
SYSMSG	NOTE		SYSRULES	
SYSNEXT	NOTE		SYSINFO	
SYSRDATA	TEXT	80	SYSREP	
SYSRNAME	TEXT	8	SYSREP	*
SYSRSEQ	INTEGER		SYSREP	*
SYSSNAME	TEXT	8	SYSINFO	
SYSTABLE	TEXT	18	SYSRULES	
SYSVCOLS	NOTE		SYSVIEWS	
SYSVNAME	TEXT	8	SYSVIEWS	*
SYSVTEXT	NOTE		SYSVIEWS	
SYSWHERE	NOTE		SYSRULES	
target_$	CURRENCY		scentitle	
target dollars for scenario				
tenyrave	DOUBLE		projct	
title1	TEXT	10	scentitle	
1st line of column header				
title2	TEXT	10	scentitle	
2nd line of column header				
title3	TEXT	10	scentitle	
3rd line of column header				
tonnage	DOUBLE		projct	
totcost	CURRENCY		holdfunc	
TOTCOST	CURRENCY		nrtotal	
			environm	
			divrank	
			workfunc	
			qc1	
			tempfunc	
			tempscen	

Column definitions

Name	Type		Table	Index Expression
TOTCUM	DOUBLE		divrank	
TOTDREG	CURRENCY		divrank	
			workfunc	
			holdfunc	
			tempfunc	
typdreg	TEXT	2	workfunc	
			holdfunc	
			divrank	
			tempfunc	
UPLOAD	TEXT	1	divrank	
UPRANK	TEXT	1	divrank	
usage	TEXT	8	status	
temporary or wf_num				
USER1	INTEGER		wetlands	
			holdfunc	
			environm	
			tempfunc	
			workfunc	
user_defined #1				
user2	INTEGER		holdfunc	
			tempfunc	
			workfunc	
user_defined #2				
			unrank	
WETCAT	INTEGER		wetlands	
wf_num	INTEGER		tempscen	*
			qc1	*
			holdfunc	
			wf_num	*
wf_num	INTEGER		tempfunc	
Autonumbering				
			check1	
			workfunc	*
new wf_num for ord				
			wf_value	*
wf_value	INTEGER		wf_value	
returned value (score, rank)				
year	TEXT	2	holdfunc	
			divrank	
			workfunc	
			wetlands	
			tempfunc	

COMB_DSS-D FORMS

```
Form       Table / View       Form Description
--------   ----------------   ----------------------------------------
omb93      workfunc           omb 93 browse
projct     projct             project entry/edit form
reason     reason
ocescen    divscen2           direct entry/edit for oce scenario
cwisscen   cwisscen           direct entry/edit for oce scenario
fccdscen   fccdscen           direct entry/edit for oce scenario
compscen   compscen           composite scenario builder
primscn1   primscen           master scenario form
scendesc   scendesc           scenario description form
compscn1   scendesc           composite scenario builder
tempscen   tempscen           tempscen data view form
primscn2   primscen           master scenario form
primdetl   primscen           test multi entry
sqlscen3   scendesc           composite scenario builder
district   district           district data entry/edit form
ombbrows   workfunc           omb 93 browse
primscn3   primscen           master scenario form
fullomb    workfunc           omb 93 browse
primedt1   primscen           master scenario form edit (from primscn3
scenscor   scendesc           scenario scores
compedt1   scendesc           composite scenario builder
sqledit1   scendesc           composite scenario builder
primedt2   primscen           master scenario form(division level)edit
primscn4   primscen           master scenario form(division level)edit
newrank    workfunc           omb 93 browse
newrank2   workfunc           omb 93 browse
newrank3   workfunc           Row oriented newrank data entry.
newrankm   workfunc           omb 93 browse
```

COMB_DSS-D REPORTS

Report	Table / View	Report Description
tempscn1	tempscen	tempscen by dstnam
tempscn2	tempscen	tempscen by project class
tempscn3	tempscen	tempscen by fccd prefix
tempscn4	tempscen	tempscen by fccd full
primscen	primscen	primary scenario detail report
divscen2	divscen2	oce scenario report
cwisscen	cwisscen	cwis scenario report
fccdscen	fccdscen	fccd scenario report
scendesc	scendesc	
compscen	compscen	composite scenario detail report
sqlscen	sqlscenario	sqlscenario
divexp1	div_s_$	up to 7 scenarios, div report export
scenscor	scendesc	
tempscn5	tempscen	tempscen by fccd full and dstnam
fundarg	tempscen	funding argument report
divscen	divscen	Primary Scenario Division Usage Detail
classscn	classcen	Primary Scenario Project Class Usage
scensum1	scendesc	Scenario Row-Wise Summary Report
ranklist	tempscen	ranking list funding argument report
divscen4	div_s_$	up to 7 scenarios, division report w/tit
dfprxprn	dfprxprn	div fccd prefix report xtab 7 scenarios
majclhol	majclsbk	major class breakout report 7 scenarios
divxprn	divxprn	division name report xtab sav/slip
pclsxprn	pclsxprn	project class report xtab 7 scenarios
fcprxprn	fcprxprn	fccd prefix report xtab 7 scenarios
fccdxprn	fccdxprn	fccd full report xtab 7 scenarios
majclprn	majclsbk	major class breakout report 7 scenarios
temp3$$$	temp3$$$	multi-scenario report for division,prefx
temp4$$$	temp4$$$	multi-scenario report for division,fccd
johnpar3	psumtemp	psumtemp by catclass,state,proj
johnpar4	pfstemp	pfstemp by project, fccd
fadivprj	fadivprj	funding argument report order by div,prj
tempscnx	tempscen	tempscen by dstnam
divxpr2	divxprn	district name report xtab sav/slip
TEST	workfunc	TEST
ranklst2	tempscen	ranking list funding argument report div
WAIVERS	workfunc	Report for waivers 28000 - 28999

APPENDIX C

SAMPLE REPORTS GENERATED BY COMB_DSS-D

Following are the reports the COMB_DSS-D will produce. This Appendix is broken into three sections. The first section will show the reports that are produced from the initial reports item within the Utilities pillar. The second section shows listing and reports that are found in other areas of COMB_DSS-D. The third section shows the financial reports.

INITIAL REPORTS

This section shows the reports that are found when running the Initial Reports item under the Utilites pillar. These reports are listed in the order in which they appear in the check-list box within the COMB_DSS-D system. Figure C-1 shows the check-list box with each of the initial reports. Each report is followed by a horizontal line to show where each report ends.

```
                    Initial Reports on Workfunc Table          07/06/93



                 (1)  Total $
                 (2)  Total $ by District
                 (3)  Total $ by funding level
                 (4)  Total $ by project class
                 (5)  Total $ by FCCD
                 (6)  Total $ by category
                 (7)  Total $ by District;funding level
                 (8)  Total $ by District;project class
                 (9)  Total $ by District;FCCD
                 (10) Total $ by District;category
                 (11) Count of zebra mussels by category




   Select Query
   Database: DSSABS
```

FIGURE C-1 INITIAL REPORTS CHECK-LIST BOX

```
QUERY for total $
DIV Rank Ranges  0  Thru  9999999
    FCCD Ranges  0.  Thru  99.99
      Funding Level = *
Appropriation Code = "*"


  Sum(TotCost)
  ============
  $353,881.00
```

```
QUERY for total $ by District
DIV Rank Ranges  0  Thru  9999999
    FCCD Ranges  0.  Thru  99.99
      Funding Level = *
Appropriation Code = "*"

DstNam    Sum(TotCost)
======================
 ORD         $192.00
 ORH      $85,268.00
 ORL      $65,991.00
 ORN     $112,733.00
 ORP      $89,697.00
```

```
QUERY for total $ by funding level
DIV Rank Ranges  0  Thru  9999999
    FCCD Ranges  0.  Thru  99.99
      Funding Level = *
Appropriation Code = "*"

FundLev   Count(FundLev)  Sum(TotCost)
======================================
 1               1435    $166,788.00
 2               1420     $97,258.00
 3                636     $58,330.00
 4                 84      $7,950.00
 7                  9        $220.00
 9                 36     $23,335.00


QUERY for total $ by project class
DIV Rank Ranges  0  Thru  9999999
    FCCD Ranges  0.  Thru  99.99
      Funding Level = *
Appropriation Code = "*"

ProjCls   Sum(TotCost)
======================
 FC         $2,905.00
 FI           $563.00
 FR       $105,875.00
 GE         $1,678.00
 GN           $134.00
```

```
GP            $5,503.00
GS               $65.00
MN           $43,079.00
MP           $37,916.00
NC            $1,147.00
NL          $155,016.00
```

```
QUERY for total $ by FCCD
DIV Rank Ranges   0   Thru   9999999
    FCCD Ranges   0.   Thru   99.99
      Funding Level =   *
Appropriation Code =   "*"

FCCD          Sum(TotCost)
==========================
01.1          $43,178.00
01.2          $11,070.00
01.3           $6,157.00
02.1           $1,069.00
02.2           $9,185.00
02.3           $4,835.00
03.1             $120.00
03.2              $52.00
04             $5,786.00
05.1           $5,459.00
05.4             $817.00
06.1          $17,334.00
06.2             $520.00
06.3             $449.00
06.4           $1,449.00
07.11          $2,533.00
07.12            $715.00
07.21          $1,309.00
07.22          $3,203.00
07.23            $513.00
07.24            $494.00
07.41          $1,516.00
07.42            $255.00
07.52            $195.00
07.53          $5,509.00
09.1           $5,474.00
09.2           $8,430.00
09.3           $3,448.00
10.11            $523.00
10.22             $36.00
11             $3,272.00
12.21              $8.00
13               $477.00
15             $7,380.00
16             $1,586.00
20             $1,162.00
20.6             $893.00
20.7             $149.00
20.8           $2,261.00
21.11         $39,651.00
21.15          $1,915.00
21.16             $81.00
21.2             $515.00
```

```
22.1         $73,632.00
22.5            $814.00
23.1          $4,441.00
23.2          $9,916.00
23.4            $510.00
23.6          $2,356.00
24.1            $300.00
24.4             $75.00
25.1          $3,904.00
27.1          $2,303.00
27.4            $660.00
28.1             $33.00
29.1         $12,972.00
29.2          $8,303.00
29.3            $629.00
29.4            $217.00
29.5             $29.00
29.8             $90.00
29.9          $2,467.00
30.1            $415.00
30.2          $8,803.00
31              $434.00
32.1          $9,768.00
32.7            $615.00
33.11         $7,282.00
33.12           $666.00
33.21         $1,264.00
```

QUERY for total $ by category
DIV Rank Ranges   0   Thru   9999999
     FCCD Ranges   0.   Thru   99.99
        Funding Level =   *
Appropriation Code =   "*"

```
Category    Sum(TotCost)
==========================
  D01        $7,282.00
  E02        $5,509.00
  E04        $2,424.00
  E05    ·     $715.00
  E06          $513.00
  E07        $1,516.00
  E09          $255.00
  E10        $5,474.00
  E11        $8,430.00
  E12        $3,448.00
  E13          $523.00
  E15          $415.00
  E17        $3,203.00
  E19        $3,884.00
  E20          $494.00
  E21          $109.00
  F01          $120.00
  F02           $52.00
  F03        $2,303.00
  F04           $33.00
  F05          $666.00
  G01        $5,523.00
```

G02	$1,792.00
G03	$65.00
H01	$5,786.00
H02	$9,916.00
H03	$4,441.00
N01	$43,178.00
N03	$73,632.00
N06	$1,264.00
P01	$3,272.00
P03	$1,162.00
P04	$893.00
P05	$2,261.00
P08	$149.00
R01	$5,459.00
R02	$817.00
R03	$17,334.00
R04	$520.00
R08	$1,449.00
R09	$1,586.00
R10	$300.00
R12	$8,303.00
R13	$629.00
R14	$12,972.00
R15	$217.00
R16	$29.00
R18	$90.00
R20	$2,467.00
R21	$449.00
R22	$3,941.00
S03	$477.00
S05	$510.00
S06	$195.00
S07	$36.00
S10	$8.00
S11	$122.00
X01	$11,070.00
X02	$6,157.00
X03	$1,069.00
X04	$9,185.00
X05	$4,835.00
X06	$39,651.00
X07	$515.00
X08	$3,904.00
X09	$9,737.00
X10	$434.00
X11	$8,712.00

CROSSTAB of SUM TOTCOST by Districts and funding level
DIV Rank Ranges 0 Thru 9999999
    FCCD Ranges 0. Thru 99.99
     Funding Level = *
Appropriation Code = "*"

fundlev	ORD	ORH	ORL	ORN	ORP	(Total)
1	$0.00	46,677.00	33,737.00	40,968.00	45,406.00	166,788.00
2	$192.00	29,445.00	21,037.00	20,588.00	25,996.00	97,258.00
3	$0.00	$5,646.00	11,187.00	23,932.00	17,565.00	58,330.00

4	$0.00	$0.00	$30.00	$7,190.00	$730.00	$7,950.00
7	$0.00	$0.00	$0.00	$220.00	$0.00	$220.00
9	$0.00	$3,500.00	$0.00	19,835.00	$0.00	23,335.00
	$192.00	85,268.00	65,991.00	112,733.00	89,697.00	353,881.00

CROSSTAB of SUM TOTCOST by Districts and project class
DIV Rank Ranges 0 Thru 9999999
    FCCD Ranges 0. Thru 99.99
      Funding Level = *
Appropriation Code = "*"

projcls	ORD	ORH	ORL	ORN	ORP	(Total)
FC	$0.00	$55.00	$0.00	$713.00	$2,137.00	$2,905.00
FI	$0.00	$140.00	$270.00	$26.00	$127.00	$563.00
FR	$0.00	45,256.00	26,582.00	$847.00	33,190.00	105,875.00
GE	$0.00	$466.00	$466.00	$546.00	$200.00	$1,678.00
GN	$0.00	$0.00	$134.00	$0.00	$0.00	$134.00
GP	$192.00	$1,202.00	$1,627.00	$1,687.00	$795.00	$5,503.00
GS	$0.00	$65.00	$0.00	$0.00	$0.00	$65.00
MN	$0.00	$0.00	$0.00	43,079.00	$0.00	43,079.00
MP	$0.00	$0.00	$0.00	37,916.00	$0.00	37,916.00
NC	$0.00	$1,128.00	$19.00	$0.00	$0.00	$1,147.00
NL	$0.00	36,956.00	36,893.00	27,919.00	53,248.00	155,016.00
	$192.00	85,268.00	65,991.00	112,733.00	89,697.00	353,881.00

CROSSTAB of SUM TOTCOST by Districts and FCCD
DIV Rank Ranges 0 Thru 9999999
    FCCD Ranges 0. Thru 99.99
      Funding Level = *
Appropriation Code = "*"

fccd	ORD	ORH	ORL	ORN	ORP	(Total)
01.1	$0.00	10,135.00	$9,397.00	$5,166.00	18,480.00	43,178.00
01.2	$0.00	$3,945.00	$4,565.00	$520.00	$2,040.00	11,070.00
01.3	$0.00	$685.00	$2,063.00	$2,498.00	$911.00	$6,157.00
02.1	$0.00	$365.00	$14.00	$0.00	$690.00	$1,069.00
02.2	$0.00	$3,425.00	$2,177.00	$712.00	$2,871.00	$9,185.00
02.3	$0.00	$2,417.00	$1,208.00	$326.00	$884.00	$4,835.00
03.1	$0.00	$60.00	$0.00	$40.00	$20.00	$120.00
03.2	$0.00	$40.00	$12.00	$0.00	$0.00	$52.00
04	$0.00	$0.00	$0.00	$5,786.00	$0.00	$5,786.00
05.1	$0.00	$430.00	$1,359.00	$1,756.00	$1,914.00	$5,459.00
05.4	$0.00	$225.00	$90.00	$157.00	$345.00	$817.00
06.1	$0.00	$5,895.00	$3,158.00	$4,849.00	$3,432.00	17,334.00
06.2	$0.00	$225.00	$139.00	$0.00	$156.00	$520.00
06.3	$0.00	$392.00	$57.00	$0.00	$0.00	$449.00
06.4	$0.00	$281.00	$208.00	$129.00	$831.00	$1,449.00
07.11	$0.00	$998.00	$462.00	$626.00	$447.00	$2,533.00
07.12	$0.00	$675.00	$0.00	$40.00	$0.00	$715.00
07.21	$0.00	$841.00	$44.00	$44.00	$380.00	$1,309.00
07.22	$0.00	$357.00	$1,059.00	$465.00	$1,322.00	$3,203.00
07.23	$0.00	$264.00	$61.00	$43.00	$145.00	$513.00
07.24	$0.00	$235.00	$103.00	$25.00	$131.00	$494.00
07.41	$0.00	$1,423.00	$0.00	$93.00	$0.00	$1,516.00
07.42	$0.00	$126.00	$50.00	$27.00	$52.00	$255.00
07.52	$0.00	$195.00	$0.00	$0.00	$0.00	$195.00
07.53	$0.00	$2,275.00	$149.00	$607.00	$2,478.00	$5,509.00
09.1	$0.00	$976.00	$969.00	$1,804.00	$1,725.00	$5,474.00
09.2	$0.00	$3,514.00	$1,350.00	$1,685.00	$1,881.00	$8,430.00
09.3	$0.00	$1,272.00	$662.00	$1,017.00	$497.00	$3,448.00

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10.11	$0.00	$140.00	$270.00	$26.00	$87.00	$523.00
10.22	$0.00	$0.00	$36.00	$0.00	$0.00	$36.00
11	$0.00	$1,416.00	$831.00	$318.00	$707.00	$3,272.00
12.21	$0.00	$0.00	$0.00	$0.00	$8.00	$8.00
13	$0.00	$100.00	$0.00	$212.00	$165.00	$477.00
15	$192.00	$1,733.00	$2,227.00	$2,233.00	$995.00	$7,380.00
16	$0.00	$557.00	$221.00	$500.00	$308.00	$1,586.00
20	$0.00	$109.00	$404.00	$40.00	$609.00	$1,162.00
20.6	$0.00	$611.00	$120.00	$153.00	$9.00	$893.00
20.7	$0.00	$149.00	$0.00	$0.00	$0.00	$149.00
20.8	$0.00	$656.00	$1,262.00	$208.00	$135.00	$2,261.00
21.11	$0.00	17,215.00	$7,325.00	$7,783.00	$7,328.00	39,651.00
21.15	$0.00	$1,610.00	$110.00	$195.00	$0.00	$1,915.00
21.16	$0.00	$33.00	$0.00	$0.00	$48.00	$81.00
21.2	$0.00	$50.00	$50.00	$115.00	$300.00	$515.00
22.1	$0.00	11,940.00	10,556.00	33,628.00	17,508.00	73,632.00
22.5	$0.00	$600.00	$5.00	$199.00	$10.00	$814.00
23.1	$0.00	$0.00	$0.00	$4,441.00	$0.00	$4,441.00
23.2	$0.00	$0.00	$0.00	$9,916.00	$0.00	$9,916.00
23.4	$0.00	$0.00	$0.00	$510.00	$0.00	$510.00
23.6	$0.00	$0.00	$0.00	$2,356.00	$0.00	$2,356.00
24.1	$0.00	$0.00	$300.00	$0.00	$0.00	$300.00
24.4	$0.00	$75.00	$0.00	$0.00	$0.00	$75.00
25.1	$0.00	$375.00	$1,931.00	$320.00	$1,278.00	$3,904.00
27.1	$0.00	$55.00	$0.00	$60.00	$2,188.00	$2,303.00
27.4	$0.00	$660.00	$0.00	$0.00	$0.00	$660.00
28.1	$0.00	$0.00	$33.00	$0.00	$0.00	$33.00
29.1	$0.00	$240.00	$946.00	$8,093.00	$3,693.00	12,972.00
29.2	$0.00	$80.00	$1,763.00	$3,730.00	$2,730.00	$8,303.00
29.3	$0.00	$0.00	$47.00	$0.00	$582.00	$629.00
29.4	$0.00	$0.00	$20.00	$62.00	$135.00	$217.00
29.5	$0.00	$0.00	$17.00	$0.00	$12.00	$29.00
29.8	$0.00	$0.00	$0.00	$0.00	$90.00	$90.00
29.9	$0.00	$0.00	$333.00	$949.00	$1,185.00	$2,467.00
30.1	$0.00	$95.00	$40.00	$0.00	$280.00	$415.00
30.2	$0.00	$1,758.00	$1,433.00	$2,773.00	$2,839.00	$8,803.00
31	$0.00	$25.00	$100.00	$0.00	$309.00	$434.00
32.1	$0.00	$660.00	$2,373.00	$3,587.00	$3,148.00	$9,768.00
32.7	$0.00	$0.00	$555.00	$0.00	$60.00	$615.00
33.11	$0.00	$2,355.00	$3,327.00	$1,000.00	$600.00	$7,282.00
33.12	$0.00	$0.00	$0.00	$666.00	$0.00	$666.00
33.21	$0.00	$300.00	$0.00	$245.00	$719.00	$1,264.00
	$192.00	85,268.00	65,991.00	112,733.00	89,697.00	353,881.00

CROSSTAB of SUM TOTCOST by Districts and category
DIV Rank Ranges 0 Thru 9999999
    FCCD Ranges 0. Thru 99.99
       Funding Level = *
Appropriation Code = "*"

category	ORD	ORH	ORL	ORN	ORP	(Total)
D01	$0.00	$2,355.00	$3,327.00	$1,000.00	$600.00	$7,282.00
E02	$0.00	$2,275.00	$149.00	$607.00	$2,478.00	$5,509.00
E04	$0.00	$998.00	$462.00	$626.00	$338.00	$2,424.00
E05	$0.00	$675.00	$0.00	$40.00	$0.00	$715.00
E06	$0.00	$264.00	$61.00	$43.00	$145.00	$513.00

E07	$0.00	$1,423.00	$0.00	$93.00	$0.00	$1,516.00
E09	$0.00	$126.00	$50.00	$27.00	$52.00	$255.00
E10	$0.00	$976.00	$969.00	$1,804.00	$1,725.00	$5,474.00
E11	$0.00	$3,514.00	$1,350.00	$1,685.00	$1,881.00	$8,430.00
E12	$0.00	$1,272.00	$662.00	$1,017.00	$497.00	$3,448.00
E13	$0.00	$140.00	$270.00	$26.00	$87.00	$523.00
E15	$0.00	$95.00	$40.00	$0.00	$280.00	$415.00
E17	$0.00	$357.00	$1,059.00	$465.00	$1,322.00	$3,203.00
E19	$0.00	$3,111.00	$154.00	$239.00	$380.00	$3,884.00
E20	$0.00	$235.00	$103.00	$25.00	$131.00	$494.00
E21	$0.00	$0.00	$0.00	$0.00	$109.00	$109.00
F01	$0.00	$60.00	$0.00	$40.00	$20.00	$120.00
F02	$0.00	$40.00	$12.00	$0.00	$0.00	$52.00
F03	$0.00	$55.00	$0.00	$60.00	$2,188.00	$2,303.00
F04	$0.00	$0.00	$33.00	$0.00	$0.00	$33.00
F05	$0.00	$0.00	$0.00	$666.00	$0.00	$666.00
G01	$192.00	$1,222.00	$1,627.00	$1,687.00	$795.00	$5,523.00
G02	$0.00	$446.00	$600.00	$546.00	$200.00	$1,792.00
G03	$0.00	$65.00	$0.00	$0.00	$0.00	$65.00
H01	$0.00	$0.00	$0.00	$5,786.00	$0.00	$5,786.00
H02	$0.00	$0.00	$0.00	$9,916.00	$0.00	$9,916.00
H03	$0.00	$0.00	$0.00	$4,441.00	$0.00	$4,441.00
N01	$0.00	10,135.00	$9,397.00	$5,166.00	18,480.00	43,178.00
N03	$0.00	11,940.00	10,556.00	33,628.00	17,508.00	73,632.00
N06	$0.00	$300.00	$0.00	$245.00	$719.00	$1,264.00
P01	$0.00	$1,416.00	$831.00	$318.00	$707.00	$3,272.00
P03	$0.00	$109.00	$404.00	$40.00	$609.00	$1,162.00
P04	$0.00	$611.00	$120.00	$153.00	$9.00	$893.00
P05	$0.00	$656.00	$1,262.00	$208.00	$135.00	$2,261.00
P08	$0.00	$149.00	$0.00	$0.00	$0.00	$149.00
R01	$0.00	$430.00	$1,359.00	$1,756.00	$1,914.00	$5,459.00
R02	$0.00	$225.00	$90.00	$157.00	$345.00	$817.00
R03	$0.00	$5,895.00	$3,158.00	$4,849.00	$3,432.00	17,334.00
R04	$0.00	$225.00	$139.00	$0.00	$156.00	$520.00
R08	$0.00	$281.00	$208.00	$129.00	$831.00	$1,449.00
R09	$0.00	$557.00	$221.00	$500.00	$308.00	$1,586.00
R10	$0.00	$0.00	$300.00	$0.00	$0.00	$300.00
R12	$0.00	$80.00	$1,763.00	$3,730.00	$2,730.00	$8,303.00
R13	$0.00	$0.00	$47.00	$0.00	$582.00	$629.00
R14	$0.00	$240.00	$946.00	$8,093.00	$3,693.00	12,972.00
R15	$0.00	$0.00	$20.00	$62.00	$135.00	$217.00
R16	$0.00	$0.00	$17.00	$0.00	$12.00	$29.00
R18	$0.00	$0.00	$0.00	$0.00	$90.00	$90.00
R20	$0.00	$0.00	$333.00	$949.00	$1,185.00	$2,467.00
R21	$0.00	$392.00	$57.00	$0.00	$0.00	$449.00
R22	$0.00	$708.00	$560.00	$2,555.00	$118.00	$3,941.00
S03	$0.00	$100.00	$0.00	$212.00	$165.00	$477.00
S05	$0.00	$0.00	$0.00	$510.00	$0.00	$510.00
S06	$0.00	$195.00	$0 00	$0.00	$0.00	$195.00
S07	$0.00	$0.00	$36.00	$0.00	$0.00	$36.00
S10	$0.00	$0.00	$0.00	$0.00	- $8.00	$8.00
S11	$0.00	$0.00	$31.00	$91.00	$0.00	$122.00
X01	$0.00	$3,945.00	$4,565.00	$520.00	$2,040.00	11,070.00
X02	$0.00	$685.00	$2,063.00	$2,498.00	$911.00	$6,157.00
X03	$0.00	$365.00	$14.00	$0.00	$690.00	$1,069.00
X04	$0.00	$3,425.00	$2,177.00	$712.00	$2,871.00	$9,185.00
X05	$0.00	$2,417.00	$1,208.00	$326.00	$884.00	$4,835.00
X06	$0.00	17,215.00	$7,325.00	$7,783.00	$7,328.00	39,651.00
X07	$0.00	$50.00	$50.00	$115.00	$300.00	$515.00
X08	$0.00	$375.00	$1,931.00	$320.00	$1,278.00	$3,904.00
X09	$0.00	$660.00	$2,342.00	$3,587.00	$3,148.00	$9,737.00
X10	$0.00	$25.00	$100.00	$0.00	$309.00	$434.00

X11	$0.00	$1,758.00	$1,433.00	$2,682.00	$2,839.00	$8,712.00
	$192.00	85,268.00	65,991.00	112,733.00	89,697.00	353,881.00

COUNT of zebra mussels by category

Category	Number of Zebra Mussels
E12	10
N03	10
R22	9
X06	14

OTHER REPORTS / LISTINGS

This section shows the listings and reports that are outside the initial and financial reports. The first group of reports listed are run from the Scenario Description Rpts item under the Scenarios pillar. This item appears as bold in Figure C-2. Following are the reports seen in the menu displayed within Figure C-2 in order from top to bottom.

```
Scenarios  Financial  Reranking  Impacts  Utilities

  Enter/Edit/Clone Primary
  Enter/Edit/Clone Composite
  Enter/Edit/Clone SQL
  Scenario Description Rpts
  Delete Scenario
  Check Scenario Dependencies
  Change Scenario Name
  Edit Scenario Report Titles
  ─────────────────────────────
  Store Many Scenarios
  Select Scenario
  Build Temporary Scenario
  Evaluate Temporary Scenario
  Store Temporary Scenario
  Browse Temporary Scenario
  Recall Temporary Scenario
  Force Cumulative Cost Calc.
  Check Scenario Status
  Edit/Browse/Move WFunctions


Database: DSSABS
```

FIGURE C-2 SCENARIO DESCRIPTION REPORTS

Quick Scenario List:

```
scenname sce sc scendesc
-------- --- -- ------------------------------------------------------------
CON_ORH   27 S  ORH, CON-OPS NAVIGATION (CO-N) D01,D02,E03,E05,F05
CON_ORL   29 S  ORL, CON-OPS NAVIGATION (CO-N) D01,D02,E03,E05,F05
CON_ORN   26 S  ORN, CON-OPS NAVIGATION (CO-N) D01,D02,E03,E05,F05
CON_ORP   28 S  ORP, CON-OPS NAVIGATION (CO-N) D01,D02,E03,E05,F05
COO_ORH   22 S  ORH, CON-OPS O&M (CO-O) X01-X11
COO_ORL   23 S  ORL, CON-OPS O&M (CO-O) X01-X11
COO_ORN   24 S  ORN, CON-OPS O&M (CO-O) X01-X11
COO_ORP   25 S  ORP, CON-OPS O&M (CO-O) X01-X11
COR_ORH   18 S  ORH, CON-OP REC (CO-R) R01-R24
COR_ORL   20 S  ORL, CON-OP REC (CO-R) R01-R24
COR_ORN   19 S  ORN, CON-OP REC (CO-R) R01-R24
COR_ORP   21 S  ORP, CON-OP REC (CO-R) R01-R24
```

```
FUND_ORD   53 S   FUNDED ORD TO 27999
FUND_ORH   49 S   FUNDED ORH TO 27999
FUND_ORL   50 S   FUNDED ORL TO 27999
FUND_ORN   52 S   FUNDED ORN TO 27999
FUND_ORP   51 S   FUNDED ORP TO 27999
OPER_ORH   38 S   OPERATIONS WORK FUNCTIONS IN ORH
```

Quick Stored Scenario List:

```
scenname  scennum     scendesc
--------  ----------  ------------------------------------------------------------
CUT200          1 200 Million cutoff, all districts
ORH200          2 ORH Workfunctions in the 200 million cutoff.
ORL200          3 ORL Workfunctions in the 200 million cutoff.
ORN200          4 ORN Workfunctions in the 200 million cutoff.
ORP200          5 ORP Workfunctions in the 200 million cutoff.
ORH39999        6 ORH Workfunctions for detailed rank list up to 39999
                  rank.
ORH29999        7 ORH Workfunctions in the 200 million cutoff.
ORL29999        8 ORL Workfunctions in the 200 million cutoff.
ORN29999        9 ORN Workfunctions in the 200 million cutoff.
ORP29999       10 ORP Workfunctions in the 200 million cutoff
CON_ORN        26 ORN, CON-OPS NAVIGATION (CO-N) D01,D02,E03,E05,F05
CON_ORH        27 ORH, CON-OPS NAVIGATION (CO-N) D01,D02,E03,E05,F05
CON_ORL        29 ORL, CON-OPS NAVIGATION (CO-N) D01,D02,E03,E05,F05
ORH_OPER       39 CUMULATIVE COST OF OPERATIONS IN ORH
ORL_OPER       40 CUMULATIVE COST OF OPERATIONS IN ORL
ORN_OPER       41 CUMULATIVE COST OF OPERATIONS IN ORN
ORP_OPER       42 CUMULATIVE COST OF OPERATIONS IN ORP
```

Available Scenario Numbers:

```
Available Scenario Numbers:
 55  56  57  58  59  60  61  62  63  64  65  66  67  68  69  70  71  72  73
 74  75  76  77  78  79  80  81  82  83  84  85  86  87  88  89  90  91  92
 93  94  95  96  97  98  99 100 101 102 103 104 105 106 107 108 109 110 111
112 113 114 115 116 117 118 119 120 121 122 123 124 125 126 127 128 129 130
131 132 133 134 135 136 137 138 139 140 141 142 143 144 145 146 147 148 149
150 151 152 153 154 155 156 157 158 159 160 161 162 163 164 165 166 167 168
169 170 171 172 173 174 175 176 177 178 179 180 181 182 183 184 185 186 187
188 189 190 191 192 193 194 195 196 197 198 199 200 201 202 203 204 205 206
207 208 209 210 211 212 213 214 215 216 217 218 219 220 221 222 223 224 225
226 227 228 229 230 231 232 233 234 235 236 237 238 239 240 241 242 243 244
245 246 247 248 249 250 251 252 253 254 255 256 257 258 259 260 261 262 263
264 265 266 267 268 269 270 271 272 273 274 275 276 277 278 279 280 281 282
283 284 285 286 287 288 289 290 291 292 293 294 295 296 297 298 299 300 301
302 303 304 305 306 307 308 309 310 311 312 313 314 315 316 317 318 319 320
321 322 323 324 325 326 327 328 329 330 331 332 333 334 335 336 337 338 339
340 341 342 343 344 345 346 347 348 349 350 351 352 353 354 355 356 357 358
359 360 361 362 363 364 365 366 367 368 369 370 371 372 373 374 375 376 377
378 379 380 381 382 383 384 385 386 387 388 389 390 391 392 393 394 395 396
397 398 399 400 401 402 403 404 405 406 407 408 409 410 411 412 413 414 415
416 417 418 419 420 421 422 423 424 425 426 427 428 429 430 431 432 433 434
435 436 437 438 439 440 441 442 443 444 445 446 447 448 449 450 451 452 453
454 455 456 457 458 459 460 461 462 463 464 465 466 467 468 469 470 471 472
473 474 475 476 477 478 479 480 481 482 483 484 485 486 487 488 489 490 491
```

Scenario Summary Report:

```
              Scenario Description Report      07/06/93  15:30:14         1

Name    Type  Score  Description
                     Storage Code, Date, Time
                     # Work Fun    Total Cost      Min OCE      Max OCE

FUND_ORH S  49     FUNDED ORH TO 27999

                   1  06/17/93  16:59:37

                        555        $55,279.00      10003        21302
```

Scenario Summary Row-wise:

#	scenname	s	scentotcost	# wf	minoce	maxoce	Scr	stordat	stortim	scendesc
49	FUND_ORH	S	$55,279.00	555	10003	21302	1	06/17/93	16:59:37	FUNDED ORH TO 27999

Primary Scenarios Report:

```
        Scenario Description Report        Date: 07/06/93  Time: 15:31:57        1

_____


   ORH_OPER    CUMULATIVE COST OF OPERATIONS IN ORH

   Type: P

Div Rank           1 to    28000  min $                      cum $        $33,439.00
Measure
User 1
User 2                                          Min Div Rank       10015

   LUMP:     Sort Order: A    App: C            Max Div Rank       13552

   Total $:      $33,419.00  # Work Func:    384
```

Primary Scenario Detail:

```
FCCD Includes/Excludes
```

Scenario	In/Out	FCCD
ORH_OPER	A	01%
ORH_OPER	A	02%
ORH_OPER	A	03%
ORH_OPER	A	04%
ORH_OPER	A	05%
ORH_OPER	A	06%
ORH_OPER	A	07%
ORH_OPER	A	08%
ORH_OPER	A	09%
ORH_OPER	A	10%
ORH_OPER	A	11%
ORH_OPER	A	12%
ORH_OPER	A	13%
ORH_OPER	A	14%
ORH_OPER	A	15%
ORH_OPER	A	16%

Composite Scenarios Report:

```
Scenario Description Report      Date: 07/06/93  Time: ****** *
```

```
maintarg    maintenance initial targets

Type: c

Total $:      $70,818.00 # work func:    425  Min Oce:   10003  Max:    21536

       Add/Del   Scenario
           U     ORH_MAIN
           U     ORL_MAIN
           U     ORN_MAIN
           U     ORP_MAIN
```

SQL Scenarios Report:

```
SQL Scenario Report [sqlscen]      Date: 07/06/93 15:33:07                        1

Scenario

FUND_ORH    49 FUNDED ORH TO 27999

            DSTNAM = 'ORH' AND NEWRANK <= 27999
```

The following report was generated (and viewed within the COMB_DSS-D viewer) by selecting the Check Scenario Dependencies item under the Scenarios pillar.

```
Composite Scenario Dependency Tree   7- 6-1993  16:30

Scenario Times By Name
========================
CON_ORH      07/06/93 13:26:41
CON_ORL      07/06/93 13:26:49
CON_ORN      07/06/93 13:26:57
CUT200       06/11/93 13:33:55
FUND_ORD     06/17/93 16:58:35
FUND_ORH     06/17/93 16:59:37
FUND_ORL     06/17/93 17:00:08
FUND_ORN     06/17/93 17:00:38
FUND_ORP     06/17/93 17:01:07
ORH200       06/11/93 13:36:36
ORH29999     06/11/93 13:36:36
ORH39999     06/11/93 15:08:04
ORH_MAIN     06/16/93  9:21:49
ORH_OPER     06/16/93  9:07:02
ORL200       06/11/93 13:38:24
ORL29999     06/11/93 13:38:24
ORL_MAIN     06/16/93  9:31:05
ORL_OPER     06/16/93  9:08:45
ORN200       06/11/93 13:40:13
ORN29999     06/11/93 13:40:13
ORN_MAIN     06/16/93  9:32:13
ORN_OPER     06/16/93  9:10:08
ORP200       06/11/93 13:42:03
ORP29999     06/11/93 13:42:03
ORP_MAIN     06/16/93  9:33:07
ORP_OPER     06/16/93  9:12:00
```

maintarg   06/16/93 9:42:55
opertarg   06/16/93 9:45:20

.

.

```
Scenario Times By Time
============================
CON_ORL     07/06/93 13:26:49
CON_ORH     07/06/93 13:26:41
CON_ORN     07/06/93 13:26:57
FUND_ORP    06/17/93 17:01:07
FUND_ORL    06/17/93 17:00:08
FUND_ORN    06/17/93 17:00:38
FUND_ORH    06/17/93 16:59:37
FUND_ORD    06/17/93 16:58:35
opertarg    06/16/93  9:45:20
maintarg    06/16/93  9:42:55
ORP_MAIN    06/16/93  9:33:07
ORN_MAIN    06/16/93  9:32:13
ORL_MAIN    06/16/93  9:31:05
ORH_MAIN    06/16/93  9:21:49
ORP_OPER    06/16/93  9:12:00
ORN_OPER    06/16/93  9:10:08
ORL_OPER    06/16/93  9:08:45
ORH_OPER    06/16/93  9:07:02
ORH39999    06/11/93 15:08:04
ORP29999    06/11/93 13:42:03
ORP200      06/11/93 13:42:03
ORN29999    06/11/93 13:40:13
ORN200      06/11/93 13:40:13
ORL29999    06/11/93 13:38:24
ORL200      06/11/93 13:38:24
ORH29999    06/11/93 13:36:36
ORH200      06/11/93 13:36:36
CUT200      06/11/93 13:33:55
```

```
Composite       Component
=========       =========
 maintarg       ORH_MAIN
 maintarg       ORL_MAIN
 maintarg       ORN_MAIN
 maintarg       ORP_MAIN
 opertarg       ORH_OPER
 opertarg       ORL_OPER
 opertarg       ORN_OPER
 opertarg       ORP_OPER
```

```
Forward Dependencies
Composite       Components
=========       ===============================
maintarg     - ORH_MAIN
             - ORL_MAIN
             - ORN_MAIN
             - ORP_MAIN
opertarg     - ORH_OPER
             - ORL_OPER
             - ORN_OPER
             - ORP_OPER
```

```
Backward Dependencies
Component       Composites
=========       ===============================
ORH_MAIN     - maintarg
ORH_OPER     - opertarg
ORL_MAIN     - maintarg
ORL_OPER     - opertarg
ORN_MAIN     - maintarg
ORN_OPER     - opertarg
ORP_MAIN     - maintarg
ORP_OPER     - opertarg
```

The follow report was generated from the $ By District report found under the Reranking pillar.

```
C  Appropriation   Max New Rank:   90099
Cost Breakout To Maximum New Rank:   90099   Date:   07/06/93   Time:   16:34:15
```

```
Operations      90099
==========
range     | ORH           ORL           ORN           ORP           (Total)
--------- | -----------   -----------   -----------   -----------   -----------
10000-19999 | $35,167.00    $25,858.00    $24,739.00    $33,228.00    118,992.00
20000-27999 |    $140.00     $2,286.00     $1,677.00     $1,926.00     $6,029.00
28000-28999 |  $3,278.00     $3,796.00     $2,341.00     $3,573.00    $12,988.00
29000-29999 |  $2,193.00       $481.00         $0.00     $1,006.00     $3,680.00
30000-39999 |  $1,769.00       $171.00     $1,786.00     $1,835.00     $5,561.00
          | -----------   -----------   -----------   -----------   -----------
          | $42,547.00    $32,592.00    $30,543.00    $41,568.00    147,250.00
```

```
Maintenance     90099
============
range     | ORH           ORL           ORN           ORP           (Total)
--------- | -----------   -----------   -----------   -----------   -----------
10000-19999 | $11,171.00     $7,948.00    $15,580.00     $7,979.00    $42,678.00
20000-27999 |  $8,801.00     $7,791.00     $6,349.00     $9,475.00    $32,416.00
28000-28999 |  $7,251.00     $6,979.00    $15,190.00    $17,509.00    $46,929.00
29000-29999 |  $1,585.00       $693.00         $0.00     $2,488.00     $4,766.00
30000-39999 |  $1,858.00     $6,960.00    $23,057.00    $10,950.00    $42,825.00
          | -----------   -----------   -----------   -----------   -----------
          | $30,666.00    $30,371.00    $60,176.00    $48,401.00    169,614.00
```

```
Total      90099
=====
range     | ORH           ORL           ORN           ORP           (Total)
--------- | -----------   -----------   -----------   -----------   -----------
10000-19999 | $46,338.00    $33,806.00    $40,319.00    $41,207.00    161,670.00
20000-27999 |  $8,941.00    $10,077.00     $8,026.00    $11,401.00    $38,445.00
28000-28999 | $10,529.00    $10,775.00    $17,531.00    $21,082.00    $59,917.00
29000-29999 |  $3,778.00     $1,174.00         $0.00     $3,494.00     $8,446.00
30000-39999 |  $3,627.00     $7,131.00    $24,843.00    $12,785.00    $48,386.00
          | -----------   -----------   -----------   -----------   -----------
          | $73,213.00    $62,963.00    $90,719.00    $89,969.00    316,864.00
```

FINANCIAL REPORTS

This section of the appendix shows the reports that are produced from the Financial pillar. These reports are produced as a result of running several items within the Financial pillar. A detailed example of the steps required can be found in Appendix A.

	ORD LEVEL 1	ORD LEVEL 2	ORD LEVEL 1&2	ORDWAIVR	ORD INVESTMENT PROGRAM	ORD THROUGH INVESTMENt	ORD LEVEL 3
ORH	45,829	3,449	49,278	22,405	3,308	74,991	5,044
ORL	32,602	8,957	41,559	8,876	2,920	53,355	10,379
ORN	39,446	7,175	46,621	11,250	1,909	59,780	23,475
ORP	44,881	7,065	51,946	16,252	2,369	70,567	17,405
Total	162,758	26,646	189,404	58,783	10,506	258,693	56,303
Savings and Slippage	-162,758	-26,646	-189,404	-58,783	-10,506	-258,693	-56,303
Target	0	0	0	0	0	0	0

FY 1994
Project Class Cost Summary Report
Operations and Maintenance, General Appropriation
05/26/93   10:49:58

	ORD LEVEL 1	ORD LEVEL 2	ORD LEVEL 1&2	ORDWAIVR	ORD INVESTMENT PROGRAM	ORD THROUGH INVESTMENT	ORD LEVEL 3
FC FLOOD CONTROL - CHANNELS	2,084	0	2,084	50	85	2,219	686
FI INSPECTION OF COMPLETED WORKS	219	215	434	0	0	434	99
FR FLOOD CONTROL - RESERVOIRS	47,425	7,568	54,993	26,763	6,935	88,691	17,012
MN MULTIPLE PURPOSE - NAVIGATION	16,411	3,274	19,685	3,108	563	23,356	8,458
MP MULTIPLE PURPOSE - NON NAVIGATION	12,884	1,811	14,695	6,163	236	21,094	12,289
NC NAVIGATION - CHANNELS AND HARBORS	1,038	19	1,057	15	0	1,072	75
NL NAVIGATION - LOCKS AND DAMS	82,697	13,759	96,456	22,684	2,687	121,827	17,684
Total	162,758	26,646	189,404	58,783	10,506	258,693	56,303
Savings and Slippage	-162,758	-26,646	-189,404	-58,783	-10,506	-258,693	-56,303
Target	0	0	0	0	0	0	0

FY 1994
Feature Cost Code Cost Summary Report
Operations and Maintenance, General Appropriation
05/26/93   10:49:59

	ORD LEVEL 1	ORD LEVEL 2	ORD LEVEL 1&2	ORDWAIVR	ORD INVESTMENT PROGRAM	ORD THROUGH INVESTMENT	ORD LEVEL 3
01 LOCKS, DAMS AND RESERVOIRS	57,970	2,355	60,325	4	0	60,329	76
02 BUILDINGS, GROUNDS, EQUIPMENT	12,865	1,245	14,110	89	548	14,747	342
03 LEVEES, FLOODWALLS, PUMP PLANT	172	0	172	0	0	172	0
04 OPERATION OF POWER PLANT	5,146	420	5,566	0	0	5,566	0
05 NATURAL RESOURCE MANAGEMENT	3,155	1,367	4,522	461	475	5,458	818
06 RECREATION MANAGEMENT	13,383	3,549	16,932	726	1,416	19,074	674
07 SURVEYS, INSPECTIONS AND STUDIES	6,462	117	6,579	6,942	351	13,872	2,370
09 WATER CONTROL MANAGEMENT	13,806	0	13,806	1,293	300	15,399	1,873
10 INSPECTION OF COMPLETED WORKS	219	215	434	36	0	470	59
11 REAL ESTATE ACTIVITIES - INSPECTIONS, OUTGRANTS, A	2,141	363	2,504	470	200	3,174	98
12 NAT'L EMERGENCY PREPAREDNESS ACTIVITIES	0	8	8	0	0	8	0
13 OSHA ACTIVITIES	476	0	476	0	1	477	0
16 LAW ENFORCEMENT	1,419	74	1,493	93	0	1,586	0
SUBTOTAL OPERATIONS	117,214	9,713	126,927	10,114	3,291	140,332	6,310
20 LANDS & DAMAGES	110	470	580	2,103	1,705	4,388	77
21 DAM & RESERVOIRS	2,285	1,962	4,247	26,906	1,822	32,975	6,193
22 LOCKS	24,343	10,612	34,955	4,891	1,173	41,019	11,232
23 POWER PLANTS	4,394	1,263	5,657	654	297	6,608	7,560
24 NATURAL RESOURCE FACILITIES	0	0	0	75	0	75	300
25 ROADS, RAILROADS, BRIDGES	130	66	196	951	8	1,155	2,749
27 LEVEES AND FLOODWALLS	2,022	39	2,061	842	0	2,903	60
28 PUMPING PLANT	0	33	33	0	0	33	0
29 RECREATION FACILITIES	1,972	337	2,309	5,718	610	8,637	14,950
30 PERMANENT OPERATING EQUIPMENT	2,587	843	3,430	2,556	1,162	7,148	1,777
31 BANK STABILIZATION	0	100	100	334	0	434	0
32 BUILDINGS, GROUNDS, UTILITIES	582	760	1,342	2,735	438	4,515	4,354
33 CHANNELS AND CANALS	7,119	448	7,567	904	0	8,471	741
SUBTOTAL MAINTENANCE	45,544	16,933	62,477	48,669	7,215	118,361	49,993
Total	162,758	26,646	189,404	58,783	10,506	258,693	56,303
Savings and Slippage	-162,758	-26,646	-189,404	-58,783	-10,506	-258,693	-56,303

o

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Target

FY 1994
Feature Cost Code Cost Summary Report
Operations and Maintenance, General Appropriation
05/26/93   10:50:01

Code		ORD LEVEL 1	ORD LEVEL 2	ORD LEVEL 1&2	ORDMAIVR	ORD INVESTMENT PROGRAM	ORD THROUGH INVESTMENT	ORD LEVEL 3
01.1	LOCK OPERATIONS	40,862	2,312	43,174	4	0	43,178	0
01.2	DAM OPERATIONS	11,027	43	11,070	0	0	11,070	0
01.3	RESERVOIR OPERATIONS	6,081	0	6,081	0	0	6,081	76
02.1	OPERATION OF SERVICE FACILITIES - ROADS AND BRIDGES	921	111	1,032	9	5	1,046	23
02.2	OPER. OF SERVICE FACILITIES - BLDGS, GROUNDS & UTILITI	8,174	776	8,950	0	0	8,950	235
02.3	OPERATION OF SERVICE FACILITIES - PERM. OPER. EQUIP.	3,770	358	4,128	80	543	4,751	84
03.1	OPERATION OF LEVEES AND FLOODWALLS	120	0	120	0	0	120	0
03.2	OPERATION OF PUMPING PLANTS	52	0	52	0	0	52	0
04	OPERATION OF POWER PLANT	5,146	420	5,566	0	0	5,566	0
05.1	MGMT OF NATURAL RESOURCES EXCLUDING FISH HATCHERIES	3,105	1,367	4,472	341	81	4,894	565
05.4	MGMT OF ARCHAEOLOGICAL & CULTURAL RESOURCES	50	0	50	120	394	564	253
06.1	MGMT OF RECREATION AREAS & FACILITIES	13,316	2,801	16,117	22	686	16,825	509
06.2	OPERATION OF VISITOR CENTERS	36	104	140	6	298	444	76
06.3	MGMT OF RECREATION AREAS & FACILITIES USING SRUF	0	57	57	392	0	449	0
06.4	MASTER PLANNING	31	587	618	306	432	1,356	89
07.11	PROJECT CONDITION SEDIMENT SURVEYS	1,519	0	1,519	335	160	2,014	519
07.12	ENVIRONMENT DREDGING & MONITORING STUDIES	40	0	40	675	0	715	0
07.21	INSTRUMENTATION	944	0	944	250	115	1,309	0
07.22	PERIODIC INSPECTIONS & CONT. EVALUATION DATA GATHERING	2,054	107	2,161	720	0	2,881	322
07.23	PERIODIC INSPECTIONS	513	0	513	0	0	513	0
07.24	PERIODIC INSPECTION REPORTING	470	0	470	24	0	494	0
07.41	DAM SAFETY STUDIES	898	0	898	290	0	1,188	328
07.42	DAM FAILURE EMERGENCY PLANNING	0	10	10	225	20	255	0
07.52	ENERGY CONSERVATION PROGRAM	0	0	0	195	0	195	0
07.53	OTHER COND & OPER STUDIES IN SUPPORT OF O&M	24	0	24	4,228	56	4,308	1,201
09.1	WATER CONTROL MANAGEMENT- DATA COLLECTION & PROCESSING	5,333	0	5,333	0	0	5,333	141
09.2	WATER CONTROL MANAGEMENT-WATER CONTROL ANALYSIS	5,421	0	5,421	1,293	300	7,014	1,416
09.3	WATER CONTROL MANAGEMENT-WATER QUALITY	3,052	0	3,052	0	0	3,052	316
10.11	INSPECTION OF COMPLETED WORKS	219	215	434	0	0	434	59
10.22	ENERGY CONSERVATION REPORTS	0	0	0	36	0	36	0
11	REAL ESTATE ACTIVITIES - INSPECTIONS, OUTGRANTS, AUDIT	2,141	363	2,504	470	200	3,174	98

Code		ORD LEVEL 1	ORD LEVEL 2	ORD LEVEL 1&2	ORDWA1VR	ORD INVESTMENT PROGRAM	ORD THROUGH INVESTMENT	ORD LEVEL 3
12.21	OPERATIONAL PLANS	0	8	8	0	0	8	0
13	OSHA ACTIVITIES	476	0	476	0	1	477	0
16	LAW ENFORCEMENT	1,419	74	1,493	93	0	1,586	0
	SUBTOTAL OPERATIONS	117,214	9,713	126,927	10,114	3,291	140,332	6,310
20	LANDS & DAMAGES	60	12	72	620	470	1,162	0
20.6	LANDS & DAMAGES - ENCROACHMENTS	0	9	9	853	31	893	0
20.7	LANDS & DAMAGES - TIMBER HARVESTS	50	99	149	0	0	149	0
20.8	BOUNDARY MONUMENTAION, RECTIFICATION AND MAINTENANCE	0	350	350	630	1,204	2,184	77
21.11	DAM MAINTENANCE	1,312	1,947	3,259	25,963	1,822	31,044	5,613
21.15	INSTRUMENTATION ON DAM STRUCTURES	475	0	475	910	0	1,385	530
21.16	ENVIRONMENTAL COMPLIANCE FOR DAM MAINTENANCE	48	0	48	33	0	81	0
21.2	RESERVOIR MAINTENANCE	450	15	465	0	0	465	50
22.1	LOCK AND SALT WATER CONTROL STRUCTURE MAINTENANCE	23,744	10,612	34,356	4,676	1,173	40,205	11,232
22.5	ENVIRONMENTAL COMPLIANCE - LOCK MAINTENANCE	599	0	599	215	0	814	0
23.1	SCHEDULED POWER PLANT MAINTENANCE	4,394	47	4,441	0	0	4,441	0
23.2	NON-SCHEDULED POWER PLANT MAINTENANCE	0	130	130	654	297	1,081	5,930
23.4	CORRECT. OF OSHA DEFICIENCIES AT POWER PLANT	0	0	0	0	0	0	360
23.6	ENVIRONMENTAL COMPLIANCE - POWER PLANT	0	1,086	1,086	0	0	1,086	1,270
24.1	MAINT. OF NATURAL RESOURCE FACILITIES	0	0	0	0	0	0	300
24.4	ENVIRONMENTAL COMPLIANCE - NATURAL RESOURCE MAINTENANC	0	0	0	75	0	75	0
25.1	ROAD AND BRIDGE MAINT. - NON-RECREATIONAL	130	66	196	951	8	1,155	2,749
27.1	LEVEE, FLOODWALLS, HURRICANE BARRIERS AND OTHER FLOOD	2,022	39	2,061	182	0	2,243	60
27.4	INSTRUMENTATION ON LEVEES, FLOODWALLS, ETC.	0	0	0	660	0	660	0
28.1	PUMPING PLANT MAINT.	0	33	33	0	0	33	0
29.1	MAINT. OF RECREATION FACILITIES	1,972	51	2,023	2,307	268	4,598	7,879
29.2	ROAD AND BRIDGE MAINT. - RECREATIONAL	0	0	0	874	241	1,115	6,658
29.3	EROSION CONTROL IN RECREATION AREAS	0	0	0	348	11	359	270
29.4	MAINT. OF VISITOR CENTERS	0	0	0	130	25	155	62
29.5	MAINT. AND PURCHASE OF PERM. OPER. EQUIPMENT FOR RECRE	0	0	0	0	18	18	11
29.8	CORRECTION OF SANITARY FACILITIES	0	0	0	0	0	0	90
29.9	MAINT. OF RECREATION FACILITIES USING SRUF	0	286	286	2,059	47	2,392	0
30.1	PERM OPER EQUIP-WATER CONTROL DATA SYSTEMS EQUIP	135	0	135	223	0	358	57
30.2	MAINT. OF PERM OPER EQUIP-REGULAR	2,452	843	3,295	2,333	1,162	6,790	1,720
31	BANK STABILIZATION	0	100	100	334	0	434	0

	ORD LEVEL 1	ORD LEVEL 2	ORD LEVEL 1&2	ORDWAIVR	ORD INVESTMENT PROGRAM	ORD THROUGH INVESTMENT	ORD LEVEL 3
32.1 MAINT. OF NON-RECREATIONAL BLDGS, GROUNDS AND UTILITIE	522	283	805	2,693	402	3,900	4,354
32.7 ENVIRONMENTAL COMPLIANCE - BUILDINGS, GROUNDS AND UTIL	60	477	537	42	36	615	0
33.11 DREDGING - NAVIGATION	6,794	398	7,192	15	0	7,207	75
33.12 DREDGING - FLOOD CONTROL	0	0	0	0	0	0	666
33.21 NON-DREDGING NAVIG. CHANNEL MAINT., SNAGGING, CLEARING	325	50	375	889	0	1,264	0
SUBTOTAL MAINTENANCE	45,544	16,933	62,477	48,669	7,215	118,361	49,993
Total	162,758	26,646	189,404	58,783	10,506	258,693	56,303
Savings and Slippage	-162,758	-26,646	-189,404	-58,783	-10,506	-258,693	-56,303
Target	0	0	0	0	0	0	0

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Class Title	ORD LEVEL 1	ORD LEVEL 2	ORD LEVEL 1&2	ORDWAIVR	ORD INVESTMENT PROGRAM	ORD THROUGH INVESTMENT	ORD LEVEL 3
1110 REGULAR CHANNELS AND HARBORS	1,038	19	1,057	15	0	1,072	75
SUBTOTAL NAVIGATION	1,038	19	1,057	15	0	1,072	75
1200 REGULAR LOCKS AND DAMS	82,697	13,759	96,456	22,684	2,687	121,827	17,684
SUBTOTAL LOCKS AND DAMS	82,697	13,759	96,456	22,684	2,687	121,827	17,684
2100 REGULAR RESERVOIRS	47,425	7,568	54,993	26,763	6,935	88,691	17,012
SUBTOTAL RESERVOIRS	47,425	7,568	54,993	26,763	6,935	88,691	17,012
2200 REGULAR CHANNEL IMPROVEMENT	2,084	0	2,084	50	85	2,219	686
2210 INSPECTION OF COMPLETED WORKS	219	215	434	0	0	434	99
SUBTOTAL CHANNEL IMPROVEMENT	2,303	215	2,518	50	85	2,653	785
3000 MULTIPLE PURPOSE	29,295	5,085	34,380	9,271	799	44,450	20,747
SUBTOTAL MULTIPLE PURPOSE	29,295	5,085	34,380	9,271	799	44,450	20,747
Total	162,758	26,646	189,404	58,783	10,506	258,693	56,303
Savings and Slippage	-162,758	-26,646	-189,404	-58,783	-10,506	-258,693	-56,303
Target	0	0	0	0	0	0	0

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